

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

IN THIS ISSUE:

Features of the
New Orleans Union
Passenger Terminal
which is to be dedicated
May 1:

- The Problem
- The Solution
- Station Features
- Mechanical Facilities
- Grade Separation
- Signaling,
Communications

SUPERB WORKMANSHIP AT LOW COST

IS YOURS WHEN YOU ORDER

YOUNGSTOWN

HOPPER and GONDOLA CAR SIDES



HOPPER CAR SIDE UNIT

Rugged

Expert Design

Economical

Ready to Apply

YOUNGSTOWN STEEL DOOR COMPANY

CAMEL SALES COMPANY • CAMEL COMPANY LIMITED

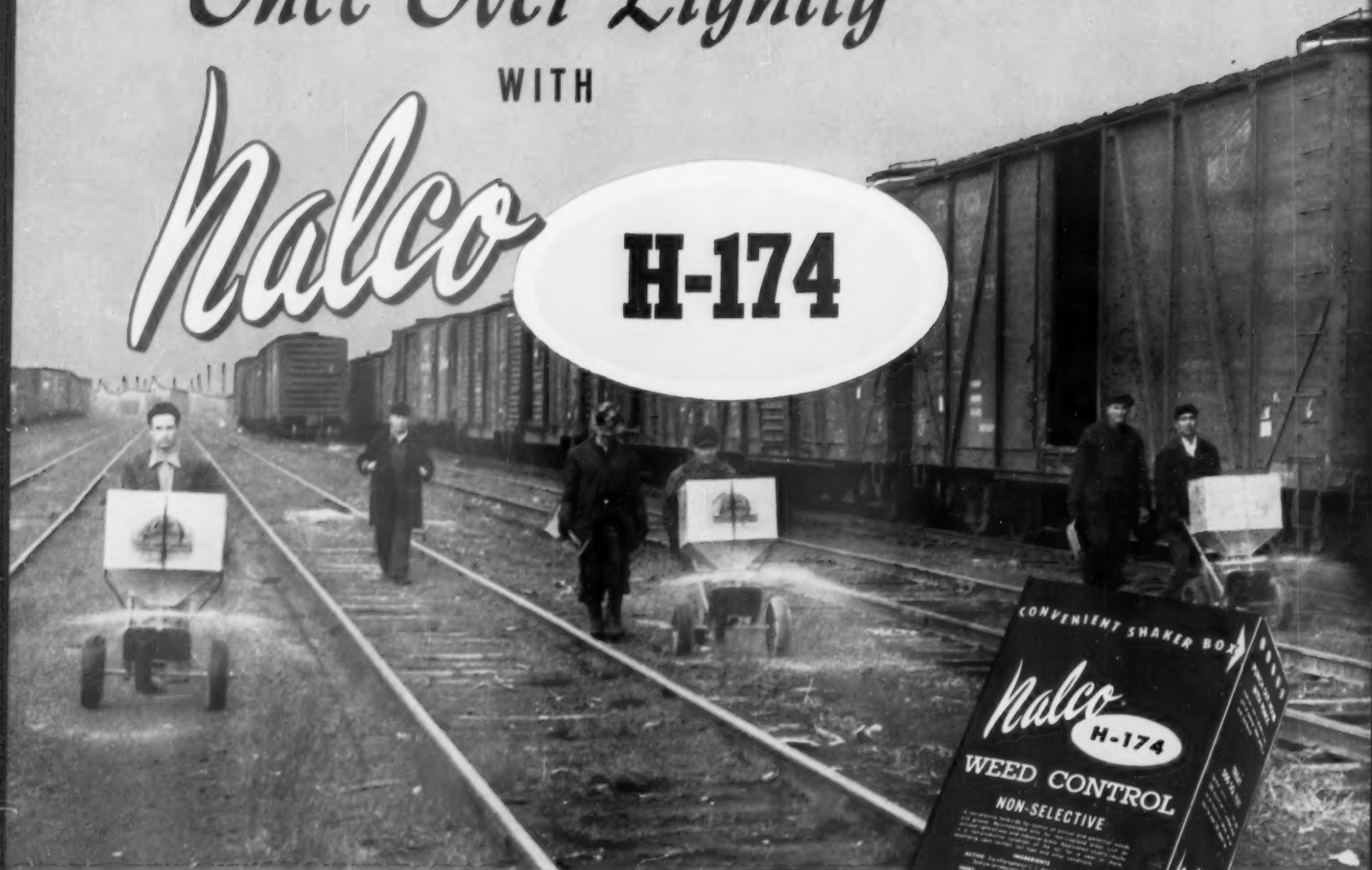
Cleveland • Chicago • New York • Youngstown

Once Over Lightly

WITH

Nalco

H-174



for a Full Season's WEED CONTROL

ONCE over lightly in your yards with Nalco H-174 gives you a full season of effective weed and brush control. High activity and sustained, non-selective killing power eliminate emergent growth, prevent regrowth by staying in the soil for months after application.

No mixing or dilution of Nalco H-174 is necessary. New granular, free-flowing form can be used as it

comes from the convenient shaker box, or in Nalco hand or wheeled spreaders.

For yard application where cars cannot be conveniently moved, the Nalco wheeled spreader is ideal. Spreads Nalco H-174 at adjustable dosage rates, and up to sixteen feet total width. Low distributor head spreads H-174 evenly, economically over area being treated.

Full information on Nalco H-174 and Nalco Spreaders will be furnished promptly upon request.



Nalco



MINER

3-WAY DOOR OPERATOR

*For
Refrigerator Cars*

1. Open single door for inspection of perishable commodities
or
2. Open first and second doors for usual refrigerator car servicing
or
3. Open all three doors to provide opening up to 7 feet in width to accommodate mechanical loading equipment.

All doors are substantially supported. No tracks or floating fixtures to be serviced. All insulation tightly sealed by door keepers and hinges. Inside faces of all doors may be cleaned from loading platform with doors in opened position.

W. H. MINER, INC.

CHICAGO



Single Track with
"UNION" C.T.C.
 saves \$1,500,000
 for rail renewal
 program

They removed a main track . . .
 and its costs went with it!



CENTRALIZED TRAFFIC CONTROL provides maximum utilization of track, cars, and locomotives. Train movements are directed by wayside signals. All controlled from one location. C.T.C. can pay its way for you, too. Your inquiry will be most welcome. We'd like to help you cut operating expenses with C.T.C.

*Here's what happened!**

1. 67 miles of double track equipped with automatic block changed to single track with C.T.C.
2. Rail on double track in most of the territory was due for renewal in 1950.
3. Renewal of rail on *one track instead of two* for a distance of 62 miles . . . and the installation of C.T.C. . . . saved \$1,500,000.00.

* Factual data will be supplied upon request.

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE



PENNSYLVANIA

EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 79 WEST MONROE STREET, CHICAGO 3, ILL. BRANCH OFFICES: 1081 NATIONAL PRESS BUILDING, WASHINGTON 4, D. C.—TERMINAL TOWER, CLEVELAND 13, OHIO—TERMINAL SALES BUILDING, PORTLAND 5, ORE. — 1127 WILSHIRE BOULEVARD, LOS ANGELES 17, CAL.—244 CALIFORNIA STREET, SAN FRANCISCO 11, CAL. — 2909 MAPLE AVENUE, DALLAS 4, TEX.

EDITOR.....James G. Lyne
EDITORIAL CONSULTANT.....Samuel O. Dunn
EXECUTIVE EDITOR.....William H. Schmidt, Jr.
MANAGING EDITOR.....C. B. Tavenner
NEWS & FINANCIAL EDITOR.....

Gardner C. Hudson

WASHINGTON OFFICE.....

Walter J. Taft.....Joe W. Kizzia

WESTERN EDITOR.....M. H. Dick

TRAFFIC & TRANSPORTATION DEPARTMENT

Robert G. Lewis.....John W. Milliken

John S. Gallagher, Jr.

MECHANICAL DEPARTMENT.....

C. B. Peck.....E. L. Woodward

H. C. Wilcox.....C. L. Combes

ELECTRICAL DEPARTMENT.....Alfred G. Oehler

ENGINEERING DEPARTMENT.....

Radford E. Dove.....Halbert H. Hall

Robert F. Lindsay

PURCHASES & EQUIPMENT.....Fred C. Miles

SIGNALING & COMMUNICATIONS

John H. Dunn.....Robert W. McKnight

WESTERN NEWS DEPARTMENT.....A. M. Cox, Jr.

WEST COAST NEWS.....T. D. MacMullen

EDITORIAL PRODUCTION.....Ralph M. Schmidl

ASSOCIATE EDITOR.....Charles Layng

LIBRARIAN.....Edith C. Stone

EDITORIAL ASSISTANTS.....

June Meyer.....Ann Ortlinghaus

Anne Schreiner.....Emma Rehm



SUBSCRIPTION TO RAILROAD EMPLOYEES ONLY IN U. S., U. S. POSSESSIONS, CANADA AND MEXICO, \$4 ONE YEAR, \$6 TWO YEARS, PAYABLE IN ADVANCE AND POSTAGE FREE. SUBSCRIPTION TO RAILROAD EMPLOYEES ELSEWHERE IN THE WESTERN HEMISPHERE, \$10 A YEAR; IN OTHER COUNTRIES, \$15 A YEAR—TWO-YEAR SUBSCRIPTIONS DOUBLE ONE-YEAR RATE. SINGLE COPIES 50c, EXCEPT SPECIAL ISSUES \$1. CONCERNING SUBSCRIPTIONS ADDRESS ROBERT G. LEWIS, VICE-PRESIDENT, 30 CHURCH ST., NEW YORK 7.



Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn., under the Act of March 3, 1879. Name registered in U. S. Patent Office and Trade Mark Office in Canada. Simmons-Boardman Publishing Corporation: James G. Lyne, president. Samuel O. Dunn, chairman emeritus. J. S. Crane, vice-president and secretary. C. Miles Burpee, Harry H. Melville, C. W. Merriken, John R. Thompson, William H. Schmidt, Jr., J. S. Vreeland, Fred W. Smith, Robert G. Lewis, vice-presidents. Arthur J. McGinnis, executive vice-president and treasurer. Ralph E. Westerman, assistant treasurer.

April 26, 1954

Vol. 136, No. 17

Week at a Glance

New management, headed by Patrick B. McGinnis, has taken over from the Dumaine interests control of the New Haven, as the result of a hairline decision in a bitter stockholders' proxy fight, overshadowed only by the continuing battle on the NYC. 7, 8

AAR research is paying off, with annual savings of \$100 million resulting from 55 projects. 9

More liberal tax amortization may be allowed on freight cars, if a DTA recommendation is adopted. DTA also favors extending amortization to passenger cars. 11

A new all-purpose flat car, designed either for general service or "piggyback," is soon to be unveiled by the Pullman-Standard Car Manufacturing Company. 11

FORUM: The contest for control of the New York Central imposes on both sides, regardless of the merits of their respective positions, the obligation to keep their public expressions within the realm of factual debate, lest the fight between them do serious harm to the railroad industry as a whole. 19

The New Orleans Union Passenger Terminal, which will be dedicated May 1, solves a multitude of headaches for the city and its attendant railroads. This issue covers the details of the new terminal in six separate articles, as follows:

Traffic Strangulation—and What New Orleans Did About It	22
The New Terminal as the Key to the Traffic Problem	24
The Station—Combining Beauty with Utility	26
Engine Terminal and Coach Yard	29
Grade Separation on a Grand Scale	30
Signals and Communications for Fast Train Handling	32



Engineer's "guide to better handling"

The Westinghouse Type "B" Brake Pipe Flow Indicator is just a small instrument but it gives the engineer a great deal of information as to what is happening in the brake pipe of his train. Our representatives will be glad to tell you all about it.

**Westinghouse Air Brake
COMPANY**

AIR BRAKE DIVISION



WILMERDING, PA.

Current Statistics

Operating revenues, two months	
1954	\$ 1,472,160,235
1953	1,675,996,363
Operating expenses, two months	
1954	\$ 1,213,739,684
1953	1,282,807,100
Taxes, two months	
1954	\$ 141,736,619
1953	199,789,450
Net railway operating income, two months	
1954	\$ 76,991,960
1953	157,866,816
Net income, estimated, two months	
1954	\$ 40,000,000
1953	114,000,000
Average price railroad wacks	
April 20, 1954	\$ 61.69
April 21, 1953	64.63
Carloadings, revenue freight	
Fifteen weeks, 1954	9,046,993
Fifteen weeks, 1953	10,308,443
Average daily freight car surplus	
Week ended April 17, 1954	136,185
Week ended April 18, 1953	52,565
Average daily freight car shortage	
Week ended April 17, 1954	215
Week ended April 18, 1953	1,460
Freight cars delivered	
March 1954	4,823
March 1953	6,679
Freight cars on order	
April 1, 1954	20,966
April 1, 1953	68,553
Freight cars held for repairs	
March 1, 1954	98,077
March 1, 1953	94,165
Average number of railroad employees	
Mid-March 1954	1,058,762
Mid-March 1953	1,188,503

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX AND BY THE ENGINEERING INDEX SERVICE. RAILWAY AGE INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE.

Departments

Accounting	11
Equipment & Supplies	35
Figures of the Week	12
Financial	7
Forum	19
Law & Regulation	11
New Facilities	35
Operations	9
Organizations	12
People in the News	10
Questions and Answers	16
Railway Officers	43
Rates & Fares	11
Securities	38
Supply Trade	38

Week at a Glance CONTINUED

BRIEFS

Opportunity knocks at your door! The *Railway Age* essay contest on cooperation between the Purchases & Stores departments and other railroad departments closes May 10. The prize is \$100. Full details were announced in the April 5 issue, page 69.

The ICC will hear oral argument October 6 on the 17 so-called reparations cases. These are the government complaints assailing rates it paid for transportation of war materials during World War II.

"Train travel is fun"—it's easy, convenient and practical," is the theme of a brand new booklet, "How to Travel by Train," just published by American Car & Foundry Co. as the May-June issue of its company magazine, "Wheels." The carefully prepared 32-page illustrated booklet, printed in two colors, is intended as "a basic information guide for the railroad traveler." It is especially designed to be easily reprinted for individual railroads, even to having space allowed on the cover for a railroad name or herald.

The passenger-fare tax cut, from 15 to 10%, "appears unlikely to be very material" in stimulating travel, in the opinion of the ICC's Bureau of Transport Economics and Statistics' "Monthly Comment." While not forecasting results, the bureau estimates that if traffic should increase by 15% (7½% in first-class) the passenger deficit would be trimmed only about 7%.

ICC plans to consolidate three bureaus—Safety, Service and Locomotive Inspection—have been postponed from May 1 to June 1.

"To meet truck competition" is the avowed purpose of a sharp reduction just made by the Canadian National in rates on certain types of freight in Manitoba and Saskatchewan. Meantime, Canadian truck operators have made public their own ideas of a uniform system of provincial regulation of highway transport.

HOT OFF THE PRESS!



200,000 miles or more of trouble-free wheel service

THAT'S a USS One-Wear Wrought Steel Wheel just coming off the second forging. It's been through a lot since it was a block of hot steel, and it will go through a lot more before it's ready to start piling up the miles.

Heating, forging, rolling, controlled-cooling—these are steps in the process that makes a Wrought Steel Wheel; a wheel of super strength and super safety, a wheel that will average 200,000 to 300,000 miles or more in normal freight car service. But USS One-Wear Wrought Steel Wheels pay off in more ways than

just extra miles. A car rolling on One-Wear Wheels spends more time in service, and less time on repair sidings. Maintenance costs go down and greater car revenue is realized. And, of course, reduced maintenance means lower labor costs.

Moreover, USS One-Wear Wheels are much lighter than ordinary wheels. For instance, eight Wrought Steel Wheels under a 50-ton capacity car will save approximately 1,520 lbs. of unsprung weight, which can be directly converted into additional payload capacity—or it can mean a savings in fuel due to the decreased

load. And, in addition, reduced unsprung weight means less pounding on the track system.

All in all, USS One-Wear Wheels offer you longer service, greater safety, higher mileage, and less weight—at lower cost. You can't beat that for the best deal in wheels.

Two strategically located complete wheel shops are ready to fill your orders for Wrought Steel Wheels: McKees Rocks (Pittsburgh), Pennsylvania, shop, serving the East and Southeast, and the Gary, Indiana, shop, supplying the Western and Southern Lines.

UNITED STATES STEEL CORPORATION, PITTSBURGH • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS WROUGHT STEEL WHEELS



4-1043

UNITED STATES STEEL



New Haven Evening Register photos

FREDERICK C. DUMAINE, JR., former president of the New Haven, presided at the railroad's annual stockholders' meeting, week before last. Shown here, seated, are **Harry L. Filer**, general counsel for the railroad (left), and **Richard Joyce Smith**, of Westport, Conn., and New York, special counsel; and, standing, **Mr. Dumaine** (left), and **Joseph B. Ely**, of Westfield, Mass., former governor of Massachusetts and special counsel for the Dumaine faction in the contest for control of the company.



PATRICK B. MCGINNIS, who successfully led opposition to the Dumaine management, and who has since been elected president of the New Haven, spoke briefly at the opening session of the road's annual meeting. Held in the company's general office building at New Haven, Conn., the meeting's first session drew some 200 stockholders—most of whom gave up before the meeting finally ended.

McGinnis Heads New Haven

Succeeds F. C. Dumaine, Jr., as president, following close victory in stockholders' proxy fight—John E. Slater new chairman—Dumaine files suit

Patrick B. McGinnis, of New York, was elected president of the New York, New Haven & Hartford at the first meeting, on April 21, of the railroad's new board of directors, members of which had, in turn, been elected during the previous week at the company's annual stockholders' meeting. As president, Mr. McGinnis succeeds Frederic C. Dumaine, Jr., of Boston, who had been executive head of the New Haven since June 1951, and who continues as a director.

John E. Slater, also of New York, has been elected chairman of the new board, succeeding Morgan B. Brainard, of Hartford, president of the Aetna Life Insurance Company, who likewise continues as a member of the board.

Proxy Battle—The change in the New Haven's top management was the outcome of a long, and outwardly bitter, contest for control of the road between directors and stockholders supporting Mr. Dumaine, and an insurgent faction, including some former directors, headed by Mr. McGinnis.

Outcome of the contest, dependent on proxies submitted in support of the opposing factions by the road's stockholders, was settled at the annual meeting, which began April 14.

Interest in the contest is indicated by the fact that 96% of the eligible stock—975,145 shares out of 1,015,565—was actually voted, with proxies from some additional shares being invalidated by tellers. Closeness of the contest is indicated, in turn, by the fact that the McGinnis group's final majority was only about 1%. This slim majority, however, enabled it to elect 11 of the road's 21 directors.

Suit Filed—Each of the contending factions laid the groundwork for possible future legal action to contest the outcome of the meeting, by recording "objections" to some or all of the proxies voted by the other group, and such a suit has since been filed by attorneys for Mr. Dumaine.

The meeting itself was a 4½-hour affair, beginning at 2 p.m. April 14, and lasting, with 10 recesses, until

7:30 a.m. April 16. It was, on the whole, a more orderly, and, at least superficially, a more friendly session than the vigor of the proxy battle which preceded it might have indicated.

New Plans—Immediately after the close of the stockholders' meeting, Mr. McGinnis told reporters: "I think and hope the directors will work with me for the benefit of the New Haven." Subsequently, but prior to his formal election as president, he said he did not believe his group's one-vote majority on the board would "necessarily" mean that board decisions would be determined by that margin.

Mr. Dumaine, in the meantime, has said that he is "going to be for anything that is going to help the New Haven."

Mr. McGinnis has indicated that he is looking for "five top railroad men" to assume vice-presidencies on the New Haven at a possible salary of \$45,000 each. Four of these vice-presidents would be in charge, respectively, of passenger traffic, freight traffic, law, and operations, while the fifth would be a "staff vice-president," to "relay management orders" to the other executives.

The legal vice-presidency has already gone to William T. Griffin, of New York, who was counsel for Mr. McGinnis during the proxy fight.

Mr. McGinnis made, after the meet-

ing, no specific statement as to other plans for operation of the railroad, except to tell reporters in a brief interview that he is "all for" continuing the program of new rolling stock being carried forward by the former management; that he thinks arrearages on the road's preferred stock dividends can be paid off before the end of 1955; and that he intends to make an intensive drive to increase commutation business in the New Haven's New York suburban territory.

Some weeks prior to the annual meeting, however, he proposed a 2½-hour non-stop passenger service between New York and Boston with a Talgo-type train; annual tickets in passenger service; and incentive rates in freight service (*Railway Age*, April 5, page 79).

There have been strong indications, also, that his supporters may attempt to eliminate the present provision that 14 of the New Haven's 21 directors be residents of the three New England



John E. Slater

states in which it operates, on the ground that stock ownership of the road is now largely outside of New England.

New Directors—The new board, which meets this geographical distribution requirement, consists of the following men, members of the previous board being denoted by an asterisk (*):

McGinnis Group—George Alpert, Boston; Howard G. Cushing, Newport, R.I.; William M. Goss, Waterbury, Conn.; Francis S. Levien, Stamford, Conn.; Patrick F. McDonald, Boston; Mr. McGinnis; Edward F. O'Brien, Worcester, Mass.; Paul A. Rust, Bridgeport, Conn.; Mr. Slater; Homer O. Whitman, Boston; and Edward F. Williams,* West Newton, Mass.

Dumaine Group—Mr. Brainard*; Mr. Dumaine*; Charles E. Dunlap,* New York; Horace C. Flanigan, New York; William Mace Hickey, New Rochelle, New York; William K. Jacobs, Jr., New York; Edward A. Merkle, New York; Richard E. Pritchard,* New Britain, Conn.; J. Francis Smith,* Waterbury, and William B. Snow,* Boston.

Mr. McGinnis—Mr. McGinnis, son

of a railroad foreman, and now senior partner in the New York investment banking firm of McGinnis & Co., is a recognized authority on railroad finance. Between his graduation from St. Lawrence University in 1926 and the formation of his own securities firm on January 1, 1947, he was connected with various brokerage houses as a specialist in rail securities. He is the author or editor of various articles and books on the subject, and has appeared as a witness in a number of railroad reorganization cases. From 1947 to 1952 he was chairman of the board of the Norfolk Southern, and for a brief period last year occupied the same position with the Central of Georgia.

Mr. Slater—The new New Haven board chairman, John E. Slater, also is president and a director of American Export Lines. Born in Somerville, Mass., in 1891, he was graduated from Harvard University and from Harvard Business School. After a year with the Union Pacific, he was with the New Haven from 1914 to 1925, beginning as statistician and analyst, and rising to the position of assistant to general manager, with time out for World War I overseas service as an army officer. He left the New Haven to become professor of transportation at the University of Illinois; and from 1926 to 1934 was associated with American Brown Boveri Electric Corporation, New York Shipbuilding Company, and Coverdale & Colpitts, New York consulting engineers, of which he is a firm member. In 1934 he joined American Export Lines, becoming executive vice-president in 1935 and president in 1949.

Mr. Dumaine—Mr. Dumaine, in addition to his New Haven associations, is a director or executive of a number of New England industries. He has been a director of the Maine Central and of the Boston & Maine, and served in a similar capacity with the New Haven before assuming the presidency in 1951.

ICC Won't Intervene in NYC Control Contest

Any possibility of Interstate Commerce Commission intervention in the contest for control of the New York Central was apparently eliminated by statements made by Commission Chairman J. Monroe Johnson before a subcommittee of the Senate Appropriations Committee in Washington April 16.

"No Illegality"—Mr. Johnson's remarks related especially to the purchase of 800,000 shares of NYC stock from the Chesapeake & Ohio by two Texas millionaires, Clint W. Murchison and Sid W. Richardson. This "joint venture" between the Young-controlled Allegheny Corporation and the two Texas men involved "no illegality," the ICC chairman said. He is "convinced," he added, that Al-

legheny has divested itself of its former interest in C&O, and that C&O, by the sale, divested itself of all interest in NYC. Thus, as Mr. Johnson put it, "Young could have bought the stock himself."

By a 9-to-2 vote, Mr. Johnson said, the commission had already decided there was no ground for the investigation sought by the Central of Robert R. Young's attempt to obtain control of that company through stockholders' proxies, which he is now soliciting in preparation for the road's annual meeting May 26. This vote, the ICC chairman pointed out, was based on a preliminary study undertaken by the commission prior to denying, on April 6, the NYC petition for a full-dress investigation.

Meantime, with the April 19 record date for the May 26 annual meeting already past, the 800,000 shares of stock to which Mr. Johnson referred have not been officially transferred to Messrs. Murchison and Richardson by the NYC, which acts as its own stock transfer agent, because of an alleged defect in the transfer papers. This has raised the possibility of court action to force transfer of the stock.

BLE Supports Young—Last week, for the first time, railroad labor entered the picture, with Guy L. Brown, grand chief engineer of the Brotherhood of Locomotive Engineers, coming out in support of Mr. Young. "His fight to break" what Mr. Brown called "a growing, tight fist of monopoly exerting control throughout the U. S. railroad industry" can, said the BLE chief, "mean three things." He listed these as: "A more competitive and therefore a stronger rail financial market; more job security due to lower interest on rail investments; and rail progress and modernization."

The Brotherhood of Railroad Trainmen, on the other hand, maintained a neutral attitude, with its president, W. P. Kennedy, saying, "This is a fight among bankers and financiers. We have friends on both sides."

Farley Backs White—Former Postmaster General James A. Farley, now a Central director, in a letter to stockholders, urged them not to "be stampeded by irresponsible promises" or "high-pressured into changing the management that is already paying out."

Mr. Young countered what he termed Mr. Farley's "crust" in "injecting himself" into the struggle by ascribing to Mr. Farley a heavy interest in the Farley-G.M.C. Truck Company, a New York firm selling trucks.

Mr. Young also remarked that the C&O is being "damaged" to the extent of \$1,000 a day, approximately, by the delayed transfer of NYC stock to Messrs. Murchison and Richardson, since \$7.5 million payable to the C&O is, he said, being held in escrow and meanwhile is producing no income for that road. NYC directors, he declared, will be held responsible for such damages.

AAR's Research Is Paying Off

Annual savings of \$100 million have resulted from 55 projects covering several departments

Savings of approximately \$100,000,000 a year have been reported by the Association of American Railroads to have resulted from 55 specific research projects carried on by that organization on behalf of the railroad industry.

The AAR pointed out that the projects covered in the dollars-and-cents survey on which the report is based deal with mechanical equipment, roadway construction and maintenance, and freight loss and damage prevention. Many other AAR projects are not included, nor is any account taken of economies effected by the research of individual railroads, railroad equipment and supply manufacturers and other interested organizations.

\$1 Billion Saved—Most of the projects surveyed were started in the 1940's, although some go back to earlier dates. Total savings for the life of the 55 projects are estimated at approximately \$1,000,000,000, with savings continuing at the rate of about \$100,000,000 a year.

The AAR said its estimates do not take into consideration many of the 55 projects because of the difficulty several present in making an accurate accounting of savings realized. "Net savings could therefore easily exceed both the long-range and the annual estimates," it added.

Commenting on the estimated savings, William T. Faricy, president of the AAR, pointed to their significance in the efforts of the railroad industry to meet rising costs of labor and materials with the least possible increase in rates and fares.

"Saving \$100 million annually is a real contribution to this effort," he said, "but perhaps even more important are the new peaks in railroad safety and

operating efficiency which research has made possible."

Engineering and Mechanical—The group of items in the report showing the largest savings were those of the AAR Engineering Division, covering track structure and maintenance methods, with total annual savings estimated at more than \$65,000,000. Mechanical Division research showed savings estimated at nearly \$17,000,000 annually, while freight loss and damage prevention research produced savings reported at \$13,000,000 a year.

Other projects which have produced outstanding savings in the railroad engineering field are investigations into more effective methods of stabilizing roadbed, prevention of transverse fissures within new rail, and the design and application of tie plates, fastenings and pads. Savings produced by these projects are estimated, respectively, at \$14,000,000, \$7,000,000 and nearly \$5,000,000 annually.

Journal Bearings—At present, the AAR is placing major emphasis in its mechanical research on the design and lubrication of freight car journal bearings. This research has been underway since 1952, with potential savings estimated at \$12,500,000 per year.

Other mechanical research yielding the greatest savings includes projects to improve couplers, to improve draft gears which absorb and disperse coupling impacts between cars, and to add to the service life of axles for both freight and passenger cars. Each of these projects is estimated to return savings of \$1,000,000 a year. No estimate of annual savings has been made for the more extensive research dealing with smooth-riding truck units for freight cars.

Savings of an additional \$13,000,000

a year are being realized from research into methods of preventing damage in transit to 14 commodities such as furniture, flour, auto glass and grapes. Damage payments are estimated to have been reduced by this amount through the use of better shipping containers and packaging and loading techniques produced by research.

Research Center—Much physical research is carried on at the AAR Research Center which occupies two buildings especially constructed for the purpose on the campus of the Illinois Institute of Technology in Chicago. This four-year-old center also serves as a coordinating agency for scores of other research projects being progressed throughout the industry. Field testing of new developments is carried out on the nation's 225,000 miles of railroad.

Heading up the program of physical research is Richard G. May, AAR vice-president in charge of the Operations and Maintenance Department.

In charge of specific projects at the Research Center in Chicago are Gerald M. Magee, director of engineering research, and William M. Keller, director of mechanical research. Clifford R. Anderson is chief of the Container Research and Development Laboratory.

Midwest Board Acts on "Dirty Car" Problem

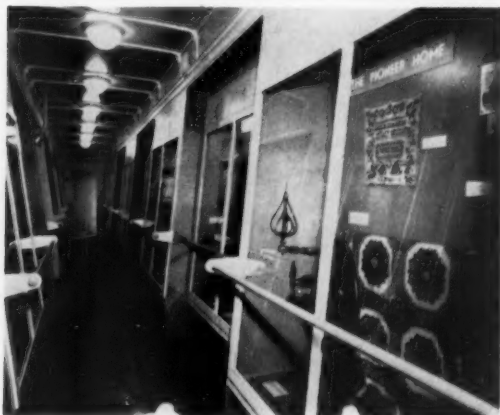
That perennial problem child—dirty cars—brought forth strong words and two resolutions at the April 8 meeting of the Midwest Shippers Advisory Board in Chicago.

The resolutions authorized: (1) Letters to state and local chambers of commerce, the Illinois Manufacturers Association and similar bodies in Indiana, Iowa and Wisconsin to describe the dirty car problem, and to seek co-operation of all members in issuing orders to their employees to clean cars; and (2) a communication to the chairman of the National Association of Shippers Advisory Boards asking that he address a similar appeal to the U.S. Chamber of Commerce, the National Association of Manufacturers and comparable groups.

B. J. Roggenbuck, traffic manager, Inland Steel Container Company, received credit for the new approach of taking the message to top executives directly to gain their personal support.

By another vote, the board became the first to approve the Consignee's Carload Damage Report Form recently revised by the Joint Shipper-Carrier Committee under R. C. Avery, chairman, National Management Committee. The affirmative vote followed advice of the Freight Loss & Damage Prevention Committee, which said the report "would help pinpoint damage and causes and go a long way in determining what must be done to correct them."

Are Boards Effective?—When



A RAIL-BORNE EXHIBIT, featuring documents and relics from early days of Kansas history, is currently moving on a "circuit" of county seat towns to help mark the Kansas Centennial observance. Rebuilt from a tourist sleeper at the Santa Fe's Topeka shops, the car displays 16 exhibits in individually-lighted glass front cases. One end of the car houses equipment for independent heating, lighting and air conditioning; the other has quarters for an attendant.

T. C. Burwell, A. E. Staley Manufacturing Company, Decatur, Ill., raised the question of whether advisory boards are effective in accomplishing anything. John Moore, traffic manager, International Harvester Company, Chicago, answered that he is getting a lot of cooperation and results from carriers; and George Schafer, Weyerhaeuser Sales Company, St. Paul, a visitor, added: "I hope we will not be discouraged and think for one moment that we are not effective. It is the only organization through which we have contact with operating officers of railroads."

Necessity of constant attention and policing of movement and terminal handling was emphasized in a report on the Dalton (Ga.) plan for through car service to Chicago. Adopted about a year and a half ago, this service was said to be deteriorating with a number of shippers returning to trucks because of railroad failure to provide adequate handling and prompt delivery service at Chicago. The board's LCL Committee also suggested that railroads equip their sales representatives with more information on package car schedules and operations.

Another report stressing the need for consistent service, by R. K. Partridge, Burlington (Iowa) Shippers Association, was relayed by the committee to point out to rail representatives that now is the time to exploit advantages of lower rail freight charges. Mr. Partridge's survey of 122 recent shipments out of Burlington indicated that use of rail service resulted in a saving of \$605.88 as against truck rates, with addition of a recent 10% rate increase in Central States Motor Freight Bureau territory.

Next meeting of the board was scheduled for the Hotel Schroeder, Milwaukee, July 14-15.

Gass Notes Freight Car Ownership Drop in March

Class I railroads and their subsidiary car lines had a net loss in total car ownership in March, when 3,901 new cars were placed in service and 5,765 retired.

A. H. Gass, chairman of the Car Service Division of the AAR, reported the figures in his monthly publication, "The National Transportation Situation." Mr. Gass noted that the backlog of cars on order by the Class I carriers on April 1 totaled 18,398.

Despite the relatively low level of new car installations, Class I roads today are in slightly better position as to serviceable ownership than they were a year ago. The April 1, 1954, figure was 1,752,535 cars, compared with 1,751,415 on the same date last year.

Meanwhile, all types of cars, with the possible exception of long gondolas and special flats, remain in plentiful supply. The long gons have been in "heavy demand" in Eastern-Alle-

gheny districts, and special assistance has been necessary to avoid shortages at steel mills, Mr. Gass said.

Freight car detention beyond the free time of 48 hours averaged 15.45 per cent in March, Mr. Gass reported. This compared with 15.04 per cent for the previous month, and with 15.47 per cent in March 1953.

People in the News

Cox Succeeds Jensen At ICC Traffic Bureau

Edward H. Cox, assistant director of the ICC's Bureau of Traffic since 1951, has been appointed director of the bureau to succeed Clarence G. Jensen, Mr. Jensen, 60, first joined the commission in 1912, and has headed the Traffic Bureau since 1946.

Caswell, "Comment" Editor, To Retire from ICC Service

Charles W. Caswell, executive assistant to the director of the ICC's Bureau of Transport Economics and Statistics, and editor of the bureau's "Monthly Comment," will retire April 30.

Mr. Caswell's retirement will come after 36 years of service with the commission. He first joined its staff in 1918 after nine years of railroad work with the Delaware & Hudson. All of his ICC service has been with the Bureau of Transport Economics and Statistics and its predecessors, and he is a recognized authority on operating statistics of carriers subject to commission jurisdiction.

Mr. Caswell has been executive assistant to director of the bureau since 1945, and editor of the "Comment" since its inception 13 years ago. The April 12 issue closed with a "note," paying him this tribute:

"His contribution as editor and principal contributor has been a sig-

nificant one. He will be greatly missed not only in this capacity but for his outstanding work as executive assistant to the director of the bureau."

T. H. MacDonald to Get Salzberg Medal

Thomas H. MacDonald, former U.S. Commissioner of Public Roads, will receive Syracuse University's Salzberg medal on April 28 for his contributions to transportation. Mr. MacDonald will deliver an address on the "Engineer's Relation to Highway Transportation" as part of an April 28-29 program on transportation sponsored by the university's colleges of engineering and business administration.

Featured on the second day of the program will be a symposium on transportation in which participants will be Dr. Theodore Matson, director of the Yale Bureau of Highway Traffic; Pyke Johnson, former president of the Automotive Safety Foundation; and J. Charles Durkin, vice-president of Niagara Motor Freight Corporation.

Previous recipients of the Salzberg medal include C. B. Aitchison, former Interstate Commerce Commissioner, and Lewis K. Silcox, honorary vice-chairman, New York Air Brake Company.

Hendon Leaves DTA

Colonel Robert R. Hendon has retired as the Defense Transport Administration's director of tax amortization and defense loans, and he has been succeeded by David Homer.

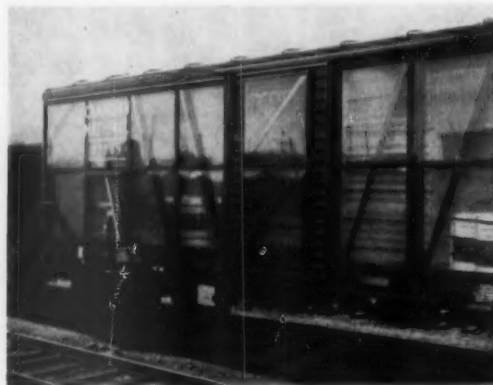
Colonel Hendon, who had been with DTA since its inception, has entered the private practice of law in Washington.

ICC Staff Retirements

John E. Hansbury and Allyn C. Breed, former acting directors of ICC bureaus, retired from service with the commission March 31.

Mr. Hansbury served as acting director of the Bureau of Valuation for

ANOTHER "PICTURE WINDOW" box car—this one on the Canadian National—has joined the fight against freight damage. It will be used to demonstrate contrasting effects of proper and improper packing and stowing of shipments.



about 11 months prior to the merger (last January 1) of that bureau into the present Bureau of Accounts, Cost Finding and Valuation. At the time of his retirement, he was assistant director of the consolidated bureau. He had been with the commission since 1914.

Mr. Breed, who was assistant director of the Bureau of Locomotive Inspection at the time of his retirement, had served about a year as acting director of that bureau. That was in 1952-53, between the retirement of former Director E. H. Davidson and the appointment of Director Charles H. Grossman, who now heads the bureau. Mr. Breed had been with the bureau since 1911.

Law & Regulation

Private Truckers Want T.O.F.C. Open to All

The Private Carrier Conference of American Trucking Associations has taken the position that trailer on flat car service should be available to all shippers whether they use trailers of common carrier or private truckers.

The position was taken in the conference's presentation to the Interstate Commerce Commission in the "piggy-backing" case, No. 31375.

Rates & Fares

Tariff Group Issues Improvement Bulletins

The Railroads' Tariff Research Group has issued Tariff Improvement Bulletins 54 to 58, inclusive. They prescribe tariff specifications which were approved at the latest joint meetings (in Birmingham, Ala., and New York) of the railroads' Administrative Committee and the Cooperating Committee of the National Industrial Traffic League.

The bulletins went to tariff publishing agents and tariff publishing officers of individual railroads. Issued along with them were supplements to several previous bulletins.

Easing Paper Work—Bulletin 54 is directed toward easing the burden of paper work upon railroads and regulatory commissions with respect to the issuance and processing of powers of attorney and concurrences. Bulletin 55 is a further step in improving the title pages of tariffs. This program is designed to relieve tariffs of excessive quantity and variety of numbers used to identify them.

Standardization of reference marks used to denote the competition which prompted the filing of a tariff is ac-

complished by Bulletin 56. A uniform practice in showing key or base points in connection with group adjustments in tariffs will result from specifications in Bulletin 57. And Bulletin 58 promulgates specifications for setting up references in tariffs to other tariffs.

Power Joins NITL Committee—

Accounting

Cars May Get Faster Amortization

ODM director thinks DTA's call for more liberal write-off arrangement may deserve favorable response

Director Arthur S. Flemming of the Office of Defense Mobilization thinks the Defense Transport Administration's call for more liberal amortization arrangements with respect to freight cars "is entitled to very careful consideration and possible favorable response."

ODM is the agency which will pass upon the DTA recommendation. The recommendation is that there be an increase, from 70% to 90%, in the percentage of freight car costs permitted to be amortized under the accelerated amortization program for tax purposes.

Passenger Car Prospects—Director Flemming made his statement before a Senate appropriations subcommittee which was considering the proposed appropriation for defense transport work during the next fiscal year beginning July 1. At the same hearing, Administrator James K. Knudson of DTA said he believed railroads would acquire a thousand new passenger-train cars if the fast amortization program were extended to such equip-

M. T. Power, general traffic manager of the General Portland Cement Company, Chicago, has been appointed to membership on NIT League's cooperating committee. He succeeds the late E. D. Grinnell, former general traffic manager of the Gaylord Container Corporation.

ment. That has also been recommended by DTA (*Railway Age*, March 29, page 7).

Meanwhile, ODM has acted favorably on another DTA recommendation. It has extended time limitations on fast-amortization arrangements with respect to six expansion goals in the transport field. The extension sets December 31, 1954, as the deadline date for the beginning of construction on equipment or facilities to be eligible for fast write-offs.

Goals affected are: Freight cars, locomotives, inland waterway vessels, Great Lakes ore carriers, railroad terminal and road facilities, and refrigerated warehouse and storage facilities.

In addition, ODM removed the previous financial limit on the railroad terminal and road facilities goal and the tonnage limit on the Great Lakes ore carrier goal. It must now be shown that facilities acquired pursuant to those goals are necessary for defense and directly related to it.

Freight Car Program—In his

NOW—AN ALL-PURPOSE FLAT CAR FOR "PIGGYBACK" OR GENERAL FREIGHT SERVICE

Early this week, the Pullman-Standard Car Manufacturing Company will unveil a scale model of a new, all-purpose flat car which is described as usable in all types of "piggyback" operations (side loading, end loading, in low clearance territory, etc.), yet is equally suitable for general freight service because it has a completely flat deck.

The scale model represents completion of preliminary design engineering on the new car, which Pullman-Standard will offer in 75-foot length, for accommodation of two highway trailers, or in 53-foot length, for handling a single trailer. Key feature of the new design is inclusion of drop well elevators (two on the 75-foot cars, one on the 53-foot cars) which make it possible to lower the trailers a maximum of six inches

after they have been secured in place. This permits meeting major clearance problems on eastern lines without resorting to a "humped" floor, to which there has been some objection.

The elevators, which can be operated mechanically or manually, will be optional. The tie-down equipment may be moved to any position on the car and will accommodate trailers of any standard size. This equipment may be collapsed for loading, or completely removed and stored on the car for a general service assignment.

The design of the car has followed extensive surveys of mechanical requirements of many different roads. With the many optional equipment features it will offer, Pullman-Standard engineers say the car can be adapted to the particular needs of almost any road.

presentation to the Senate appropriations subcommittee, Mr. Knudson also said DTA is making studies which will probably result in increasing the present freight car program by a "substantial number of cars." The present program contemplated building the fleet to 1,850,000 cars by the end of this year.

It is about 122,000 cars behind schedule, Mr. Knudson said. He added that railroad orders have been cut to the point "where we are worrying about the production facilities becoming impaired or being in short supply when needed in the future."

As to DTA's appropriation, Mr. Knudson urged that it be restored to the \$275,000 recommended in President Eisenhower's budget, and that it be separated from appropriations for the Interstate Commerce Commission. The proposed appropriation is carried in the independent offices bill which passed the house with a \$170,000 item in the ICC appropriation for defense transport work.

Organizations

Railroad Police Academy To Be Held May 3 to 14

The Protective Section of the Association of American Railroads will sponsor its fourth annual National Railroad Police Academy in Chicago May 3-14, inclusive.

The purpose of the academy is to provide advanced police training to experienced railroad police officers who, in turn, will serve as instructors in training men on their own roads. The course covers a wide range of subjects and problems, and includes discussion of training methods as well as participation in "on the scene" investigations.



BOGUE ELECTRIC MANUFACTURING COMPANY opened this new Paterson, N.J., plant on March 26. The plant, third established by the company in that city, will increase

Certificates will be awarded to those completing the course at a banquet to be held in the Congress Hotel, May 13. D. L. Wood, chief special agent of the Illinois Central, will preside.

New RSPA Officers Elected in Chicago

Walter N. Norris, general auditor of the Great Northern, was elected president of the Railway Systems & Procedures Association at the group's spring meeting in Chicago last week. Mr. Norris succeeded B. E. Wynne, assistant to comptroller, Bessemer & Lake Erie.

William A. McClintic, special representative in the office of vice-president and general manager, Chesapeake & Ohio, was elected vice-president, and J. W. Milliken, associate editor, *Railway Age*, was reelected secretary-treasurer.

The 93rd regular meeting of the **Atlantic States Shippers Advisory Board** will be held in the Claridge Hotel, Atlantic City, N.J., May 6-7. At the morning session on May 7, W. J. Kelly, vice-president, traffic, Association of American Railroads, will speak on "The Bill of Lading Contract." The luncheon speaker will be Warren W. Brown, president of the Monon. Charles R. Seal, general counsel and chief of the traffic and rate studies division, Virginia State Ports Authority, will be toastmaster.

The spring meeting of the **American Railway Magazine Editors Association** will be held at Louisville, Ky., May 7.

The **American Short Line Railroad Association's** Pacific region will meet at Reno, Nev., May 4, at the Mapes Hotel. J. M. Hood, president of the association, and other officers from its Washington headquarters will appear on the program. J. M. Bamberger, regional vice-president and

president of the Bamberger Railroad, will preside.

A traffic and transportation conference, sponsored by the **Michigan Industrial Traffic League**, in cooperation with the **School of Business and Public Service of Michigan State College**, is scheduled for May 11-12, at Kellogg Center for Continuing Education, East Lansing, Mich. Purpose of the conference is to inform managements of industries, chambers of commerce and transportation lines how the annual \$57-billion transportation budget is being spent to move goods and passengers.

Figures of the Week

Freight Car Loadings

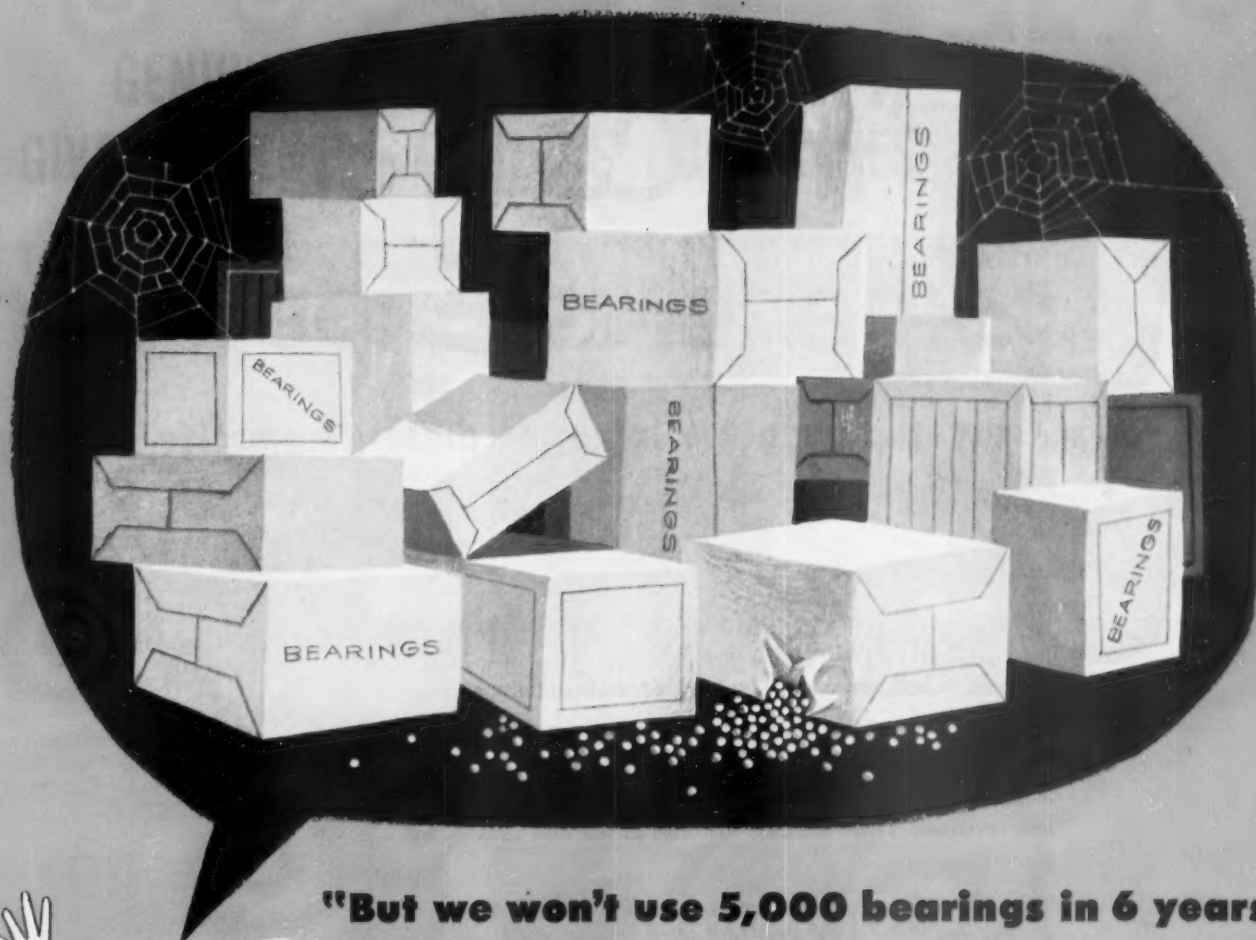
Loadings of revenue freight in the week ended April 17 totaled 612,884 cars, the Association of American Railroads announced on April 22. This was an increase of 6,094 cars, or 1%, compared with the previous week; a decrease of 138,744 cars, or 18.5%, compared with the corresponding week last year; and a decrease of 122,185 cars, or 16.6%, compared with the equivalent 1952 week.

Loadings of revenue freight for the week ended April 10 totaled 606,790 cars; the summary for that week, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, April 10			
District	1954	1953	1952
Eastern	108,566	123,600	117,134
Allegheny	114,920	145,442	130,426
Pennsylvania	44,644	52,225	52,360
Southern	116,999	127,008	130,128
Northwestern	67,614	105,322	94,505
Central Western	99,986	109,769	108,372
Southwestern	54,061	57,773	57,827
Total Western Districts	221,661	272,864	260,704
Total All Roads	606,790	721,139	690,752
Commodities:			
Grain and grain products	39,424	39,428	40,120
Livestock	7,632	7,523	8,428
Coal	96,893	114,618	115,915
Coke	7,855	13,594	9,974
Forest products	39,126	42,945	43,590
Ore	14,348	55,672	43,815
Merchandise L.C.I.	64,016	70,699	74,507
Miscellaneous	337,496	376,660	354,403
April 10	606,790	721,139	690,752
April 3	599,302	704,517	706,889
March 27	601,426	715,333	725,487
March 20	609,959	701,065	720,009
March 13	609,883	700,183	708,975
Cumulative total, 15 weeks	9,046,993	10,308,443	10,738,033

In Canada.—Carloadings for the 10-day period ended March 31 totaled 99,832 cars, compared with 66,192 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
March 31, 1954	99,832	42,371
March 31, 1953	98,152	48,449
Cumulative Totals:		
March 21, 1954	837,346	365,451
March 31, 1953	916,419	407,029



"But we won't use 5,000 bearings in 6 years"



This railroad purchasing agent, shopping for the best parts at lowest cost, was just quoted a low unit price tied to a large-volume order. He's got the answer because he knows that it's no bargain to buy parts out of all relation to needs just to get a "break" on unit prices.

But when you buy General Motors Diesel Locomotive parts from Electro-Motive you pay the same low price regardless of the quantity. You avoid tying up capital in excess stocks and don't risk losing a good share of your investment through deterioration of parts in storage.

Retail deliveries at wholesale prices is just one of the reasons why it pays to buy genuine Electro-Motive parts. Here are others:

Full Warranty—100,000 miles or one year's service, whichever occurs first, from date of installation

"One Stop" Shopping—One requisition can cover more than 35,000 different parts

Regional Warehouses—Cuts lead time on orders; 24-hour delivery in emergencies

Continuing Improvements—Over a 15-year period an 800% increase in piston life, for example

For full details, call your Electro-Motive Parts Representative or write:

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS
LOCO. MOTIVES

GENERAL MOTORS

La Grange, Illinois • Home of the Diesel Locomotive



"the Case of the Expensive Experiment"

Are you paying too much for diesel locomotive repair parts?

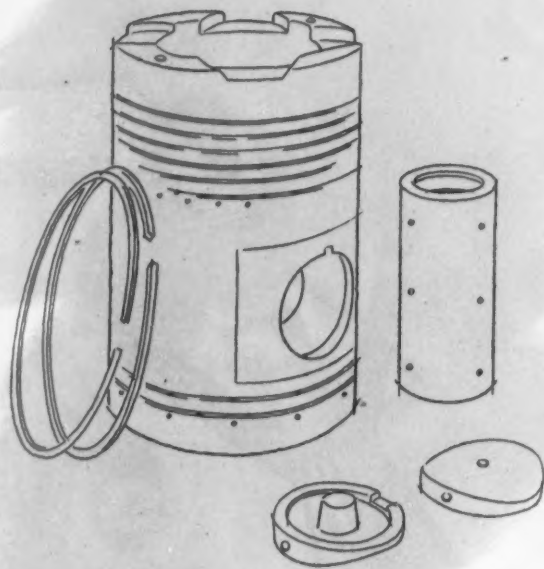
The *real cost* of your renewal parts may be higher than you think—if you're inclined to experiment with "just-as-good" substitutes instead by buying from the original manufacturer.

"Just-as-good" substitutes for Alco renewal parts may actually mean costly engine repairs, down time, and lost revenues. There are case histories in our files that prove this.

Take, for example, the railroad that "experimented" with piston rings in an Alco engine—buying and using so-called "just-as-good" substitutes because the price was attractive, regardless of inherent mechanical and metallurgical problems involved.

Result: One wrecked diesel engine
and a monumental repair bill.

Renewal parts "experiments" are a risky business—and a risk you needn't take. That's why we say: Don't experiment . . . don't be fooled by costly "bargains" you can't afford . . . or parts you can't use. Specify *genuine* Alco renewal parts for your Alco locomotives.

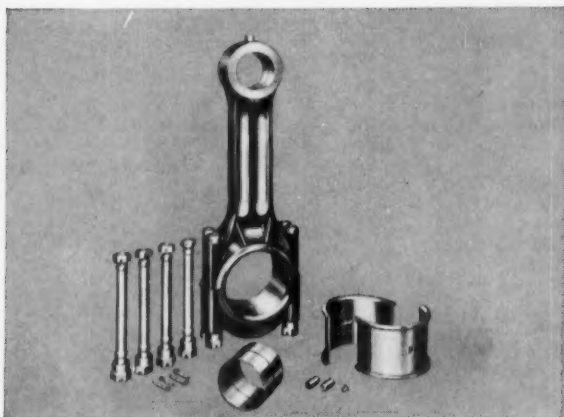


THERE ARE NO SUBSTITUTES FOR GENUINE ALCO PARTS

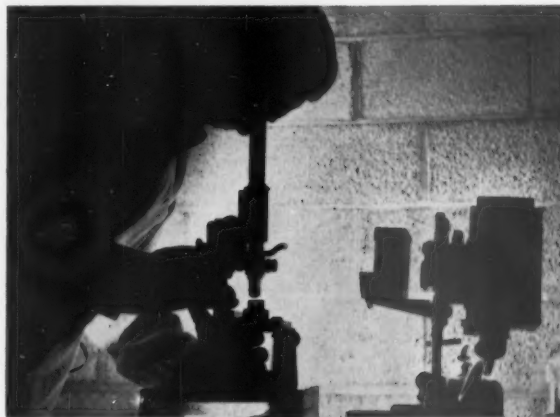
ALCO

AMERICAN

GENUINE ALCO RENEWAL PARTS GIVE YOU THESE FOUR BIG ADVANTAGES



LATEST DESIGN FEATURES: The connecting rod above, for example, has removable bronze piston pin bushings and precision crank pin shells. All genuine Alco parts incorporate latest features developed through Alco's extensive laboratory and field research—for better performance, greater operating economy and protection against failure.



SUPERIOR QUALITY CONTROL AND FULL WARRANTY: Quality control at Alco ranges from microscopic analysis of metals (above) to mechanical testing of giant forgings. Backed by full warranty, all genuine Alco parts meet strict specifications—specifications established by specialists in railroad motive power.



SCIENTIFIC, UNIFORM PACKAGING: Notice how this Alco radiator grid is protected from dirt, moisture and rough handling by VCI (vapor corrosive inhibitor) paper, cellulose wadding or dunnage, and a heavy cardboard box made for the part and sealed with steel straps. This is typical of Alco packaging—designed to eliminate damage and simplify your storage problems.



MULTIPLE SUPPLY, SINGLE RESPONSIBILITY: Strategically located Alco warehouses stand ready to meet *all* your renewal parts requirements. Alco warehouses offer you the many advantages of *multiple* sources of supply—including fast delivery, low shipping costs, low handling costs—plus the added advantage of *single* responsibility and a *single* purchasing contact.

Contact your Alco Sales Representative today for further information.

LOCOMOTIVE COMPANY

Questions and Answers FOR THE TRANSPORTATION DEPARTMENT

HOW WELL DO YOU KNOW YOUR DEMURRAGE RULES?

Answers to the "quiz" which originally appeared in the March 15 issue.

(1) James Smith, a contractor, was furnishing a considerable volume of building material for a housing project. He had no private siding, but found that the nearest railroad station had ample room on its public delivery track to take care of his unloading requirements. A written agreement was executed for the use of 10 car lengths of room on the team track. Smith told the railroad's agent that telephone advice of arrivals was entirely satisfactory, and that he would confirm this fact to him by letter. Everything went smoothly until a spell of bad weather prevented Smith from unloading promptly. Some \$300 demurrage accrued on 25 cars before the jam was cleared. When the agent presented Smith with bills for this demurrage, Smith declined payment at first; then paid under protest, appealing the charges to the Interstate Commerce Commission, which sustained the protest and directed the railroad to refund to Smith the charges which had been collected. Why?

ANSWER: Smith had not been given a notice of arrival, or a constructive placement notice, in writing,

as required by tariff. Patron had not confirmed by letter that telephone notice was sufficient.

(2) John Jones ordered a small lot of feed from his regular supplier. He was advised that his goods were being loaded in the center of a stop-off car, with the balance of the load going to a destination beyond Jones' station. Via 'phone, Jones asked the railroad's agent to telephone him when the car arrived. The agent did so. Jones sent his truck to the team track and removed a truckload of the feed the same afternoon. However, a fire occurred at Jones' store that evening, and Jones did not get around to unloading the rest of his goods until some \$18 of demurrage had accrued. Jones protested this charge, hiding behind the technicality that the agent had not given him a notice in writing of the car's arrival. Was Jones required to pay, and if so, why?

ANSWER: Jones was required to pay. Removal of any part of the contents of a car is considered notice of arrival. (Demurrage Rule 4-D)

(3) Joe Brown received a notice of arrival from the agent of the New Haven, postmarked 3 p.m. Monday, stating that NH 31348 had arrived, consigned to him, and was being placed on a public delivery track. Brown went to the public delivery track the first thing Tuesday morning, but found that, for some reason, the car had not been placed yet. He was told that it would be placed within an hour or so. (It actually was placed by 11 a.m. Tuesday.) Brown, however, got busy with other matters and forgot about

the car. It was not until the following Monday that the agent's force noticed that the car was still on hand under load, whereupon the agent telephoned Joe about it. Joe immediately sent a truck and unloaded the car that day. The agent presented a bill for demurrage for Friday and Monday, which Joe protested. Was he justified in this protest, and was he required to pay?

ANSWER: Brown was required to pay. (Demurrage Rule 3-C-1) Car was placed within 24 hours after notice of arrival was sent.

Correct answers were submitted by:

J. C. Cox, supervisor demurrage, Pennsylvania, Loganport, Ind.;
O. M. Elverhoy, traveling auditor, Northern Pacific, St. Paul;
W. E. Fiscus, revising clerk, Santa Fe, Kaiser, Cal.;
O. M. Gould, agent, Missouri-Kansas-Texas, Grandfield, Okla.;
M. J. Hollifield, agent, Gainesville Midland, Gainesville, Ga.;
James Laurie, assistant to receiver, Georgia & Florida, Augusta, Ga.;
N. D. Martin, demurrage supervisor, Grand Trunk Western, Detroit;
E. J. Noland, Burlington, Aurora, Ill.;
Muriel Snyder, clerk, Manon, Lafayette, Ind.;
N. L. Vickery, agent, PRR, Churubusco, Ind.;
C. L. Wright, agent, PRR, New York;
L. E. Edwards, assistant general freight agent, Minneapolis, Northfield & Southern, Minneapolis;
B. W. Erickson, agent, Green Bay & Western, Green Bay, Wis.;
F. O. Glant, joint agent, Pennsylvania-New York Central, Vincennes, Ind.;
T. A. Healy, PRR, Lima, Ohio;
F. Lockwood, agent, Rock Island, Chicago;
R. A. Juneo, traveling agent, North Western, Duluth;
E. Maulis, Jr., car service agent, Niagara Junction, Niagara Falls, N. Y.;
J. A. Ryan, agent, NYC, Middletown, Ohio;
K. L. Spanbauer, agent, Soo Line, Oshkosh, Wis.;
H. R. Stratmoen, traveling auditor, Great Northern, Seattle;
H. D. Winters, chief demurrage clerk, Pittsburgh & Lake Erie-Lake Erie & Eastern, Pittsburgh;
O. H. Snow, Soo, Minneapolis; and
K. J. Lowrey, CB&Q, Chicago.

CONDUCTED BY G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.

Under demurrage rules, unless patrons specify otherwise, in writing, notice of arrival or constructive placement of patrons' cars must be in writing. Failure to remember this fact was the main cause of incorrect answers. In all, 17 of 46 respondents to the quiz missed the first question, while only four and six persons, respectively, failed to give proper answers to questions two and three.

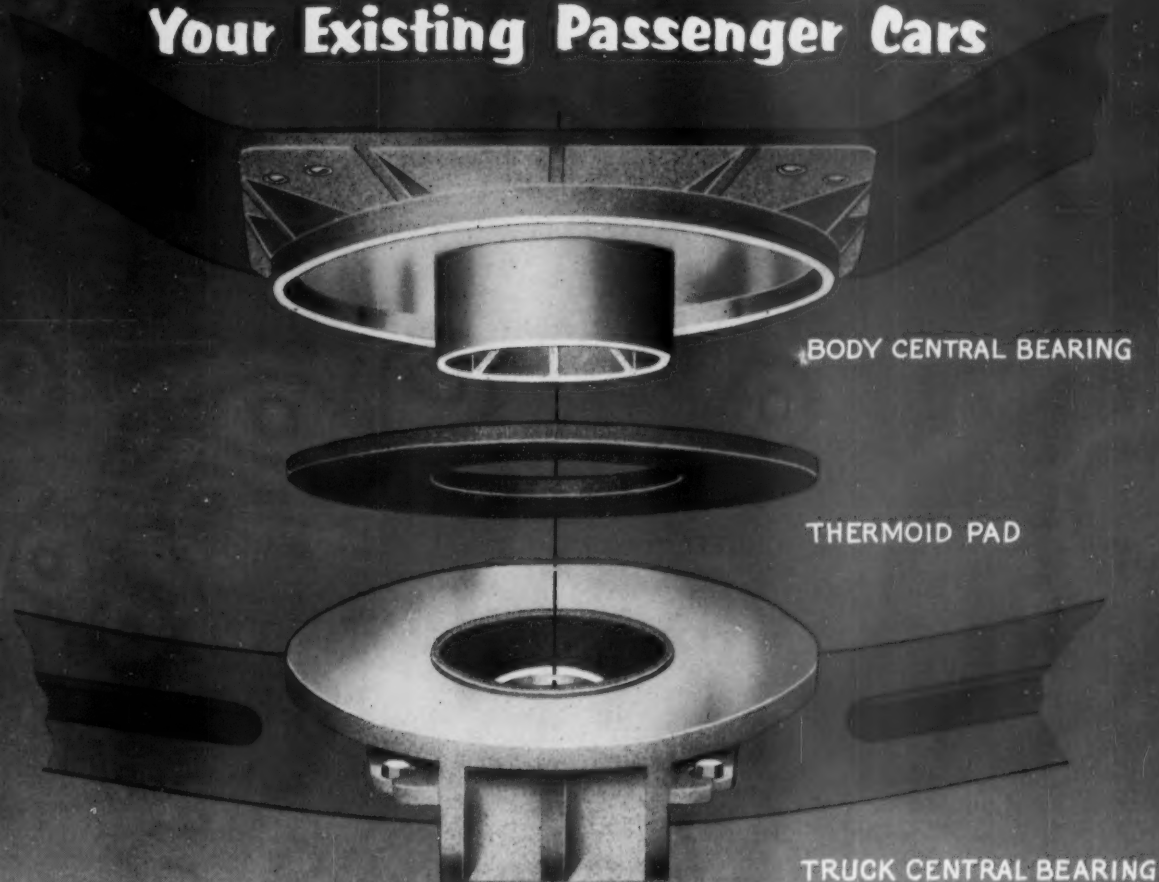
Most of those missing question one gave as the reason for the refund "weather interference," overlooking the failure to give written notice of constructive placement. Since the question made no mention that the consignee claimed weather interference or that provisions of Rule 8-A-1 were involved, it seemed it would be apparent the notification was defective, as was the case.

There were but four wrong answers to question two, nearly everyone getting the point that removal of any part

of the load constitutes notice of arrival under the tariff. (Rule 4-D)

Six persons missed question three. Most of them thought there was negligence on the part of the railroad in not notifying Brown promptly after the car had been placed, under the circumstances recited. Rule 3-C-1 is specific about this and provides that unless placement were delayed until after 7 a.m. of the following day (Wednesday) there was no requirement that the agent must notify the consignee of such placement. Once having received written notice of arrival, it was Brown's responsibility to keep in touch with the agent as to the car's placement. However, failure to place the car within 24 hours would have made it necessary for the railroad to give a notice of placement, and time would have been computed from the first 7 a.m. after notice of placement had been given. (G. C. R.)

Improve the Riding of Your Existing Passenger Cars



with the

CENTRAL BEARING

Eliminates Lateral Shimmy—Increases Wheel Mileage

The new Central Bearing, developed by General Steel Castings, is now in service on several hundred cars and on order for many hundreds more. It provides a simple, proven way to assure smoother, more comfortable riding of your existing passenger train cars, and substantially reduces upkeep cost.

Truck shimmy and side bearing problems are eliminated with the Central Bearing, and mileage between wheel turnings is greatly increased.

The Central Bearing requires no lubrication.

Available in a simple, easy-to-install "package", Central Bearings may be readily applied to passenger train cars at small expense. They occupy the space formerly used by the center plates.

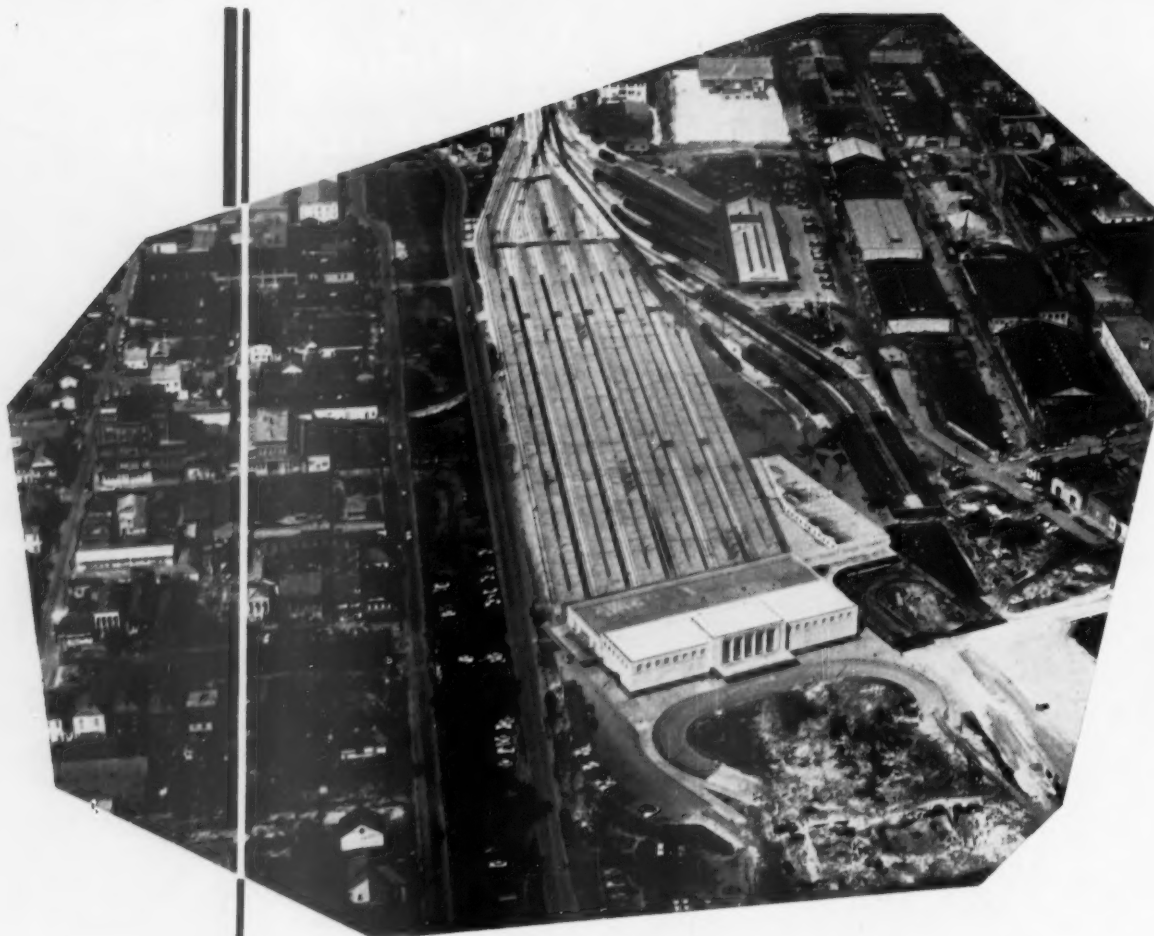
For the utmost in riding comfort, it will pay you to equip your existing passenger cars now with Central Bearings, and to specify them for your new equipment.

GENERAL STEEL CASTINGS

GRANITE CITY, ILL.



EDDYSTONE, PA.



—may we add **OUR COMPLIMENTS**

Historic, picturesque and progressive New Orleans and all Railroads participating in the handsome new Union Station improvement, should take a bow! You have earned,—and unquestionably will receive thousands of sincere compliments. Your achievement is a singular example of what can be accomplished through efficient planning and genuine cooperation. You have built a project of needed convenience, distinctive beauty and practical utility. May other cities take cognizance of your excellent judgment and persistent efforts.

SALES REPRESENTATIVES:

W. A. SUMMERHAYS
7427 Merrill Ave., Chicago 49

WALTER J. CHURCH SALES CO.
808 Carondelet St., New Orleans 12

T. C. COLEMAN & SON
Heyburn Building, Louisville 2

CONLEY Frog & Switch Co.

MEMPHIS, TENNESSEE

The Contest for Control of The New York Central

Of the several proxy contests for railroad control, the one in the New York Central has, naturally, attracted the most attention—because it is one of the largest railroads, with upwards of 40,000 stockholders. The one genuine issue in the dispute is this: On their past records as stewards of other people's property, which group of directors, the present board or the Young group, do the stockholders believe will best serve their interests?

The answer to this question lies partly within an area where professional railroad men (and this paper) have some first-hand knowledge; and partly in the field of general investment management where this paper can lay claim to no authoritative voice, and in which, probably, most professional railroad men are no more expert than we are. It is our constant purpose not to express profound convictions on subjects wherein we are not qualified by thorough observation and study.

Not very many New York Central stockholders are readers of this paper—which is edited primarily for professional railroaders. Nevertheless, there are many professional railroaders whose opinions on this New York Central dispute will be sought by stockholders, and these railroaders certainly have a right to express themselves insofar as their intimate knowledge goes. The principal questions so far raised, at least by implication, in this contest and which lie clearly within the field of competence of experienced railroad men to hold and express opinions are: (1) the efficiency with which the Chesapeake & Ohio has been operated under Mr. Young's direction and (2) the competence of William White as a railroad executive.

The first question can be definitively answered only by detailed analysis of the performance figures. Certainly none of the "quickie" arguments so far published can be conclusive. One of the most important functions of the financial management of any company is the selection of leadership to conduct actual operations. It has been our observation that the top people on the C&O have won the regard of other railroad men who know them, reflecting credit on those who chose them.

Now as to William White—we shall confine our observations to his work as a railroad operator, and not to his activity in polemics. Mr. White has

risen to the top in the railroad business, not by the avenue of ownership, but because his record of performance has stimulated a demand for his services. After a noteworthy career on other railroads, he went with the New York Central less than two years ago and, since that time, has proceeded with the greatest vigor and intelligence to initiate sweeping improvements in the operation of that great property. Among other things, he has tackled the "passenger problem," probably in a more "all out" and systematic manner than has yet happened on any other major railroad.

Furthermore, he has "streamlined" the heretofore rather complex management structure of the Central. He has also modernized its maintenance operations—having brought over to the Central the officer who was actively in charge of this program on the Lackawanna where it was so notably successful. There is not the space here, nor is it our purpose, to cite a complete record to prove the competence of William White. To people who know railroading, proffering such proof is to gild the lily. During the past dozen years, since Mr. White became a chief railway executive, his achievements have been outstanding and quite beyond cavil. Whatever fault anyone might find with the present New York Central board, we believe that unprejudiced witnesses must say in the board's favor, at the very least, that when it needed a new chief executive, it went out and got itself a mighty good one.

The record as managers and as financiers of the men composing the present New York Central board—collectively and individually—as well as that of Mr. Young and his associates, will doubtless be pretty well disclosed to the New York Central stockholders by both the contending parties between now and the time of the annual meeting. Whether these stockholders prefer "competitive bidders" or not—or directors who can influence lots of traffic but don't own much stock, or not—is strictly their problem. But we do hope, for the long-run welfare of the railroads, that votes will not be swayed by misapprehension as to the competence of good railroad men.

In the railroad business, the most bitter rivals still have to cooperate with each other—because only through inter-railroad collaboration is nationwide railroad service possible. Such collaboration being essential to the national welfare—unless the people in and around the railroads can agree on some rules of self-restraint to keep such contests as the recent ones within the realm of factual debate, then here is an area where the industry is inviting more, rather than less, regulation.



This beautiful new terminal adds another bit of charm to captivating New Orleans.



NEW ORLEANS joins the many users of F & H TRUCKS



Baggage being moved promptly, quietly and safely on F&H Trucks in train.



There will be no delays in dispatching these loads of mail as a great modern city utilizes latest type F&H Trucks.

THE NEW ORLEANS UNION PASSENGER TERMINAL achieves several objectives through the use of F&H Standard Express — Baggage — Mail Trucks. ● *Good public relations* are promoted through the attractiveness and quietness of these up-to-the-minute platform servants. ● *Economy* is gained through these free-rolling, low-maintenance trucks and the floor protection of their air cushion wheels. ● *Efficiency* is served because F&H trucks are always ready to go, move speedily and easily and carry full loads with ease. We welcome New Orleans to the growing list of important rail locations where F&H Trucks are proving their worth.

Write for
Complete Information



STANDARD
EXPRESS • BAGGAGE • MAIL
TRUCKS

(Hand Drawn and Tractor Drawn)



FRENCH & HECHT
DIVISION
KELSEY · HAYES WHEEL COMPANY
DAVENPORT, IOWA

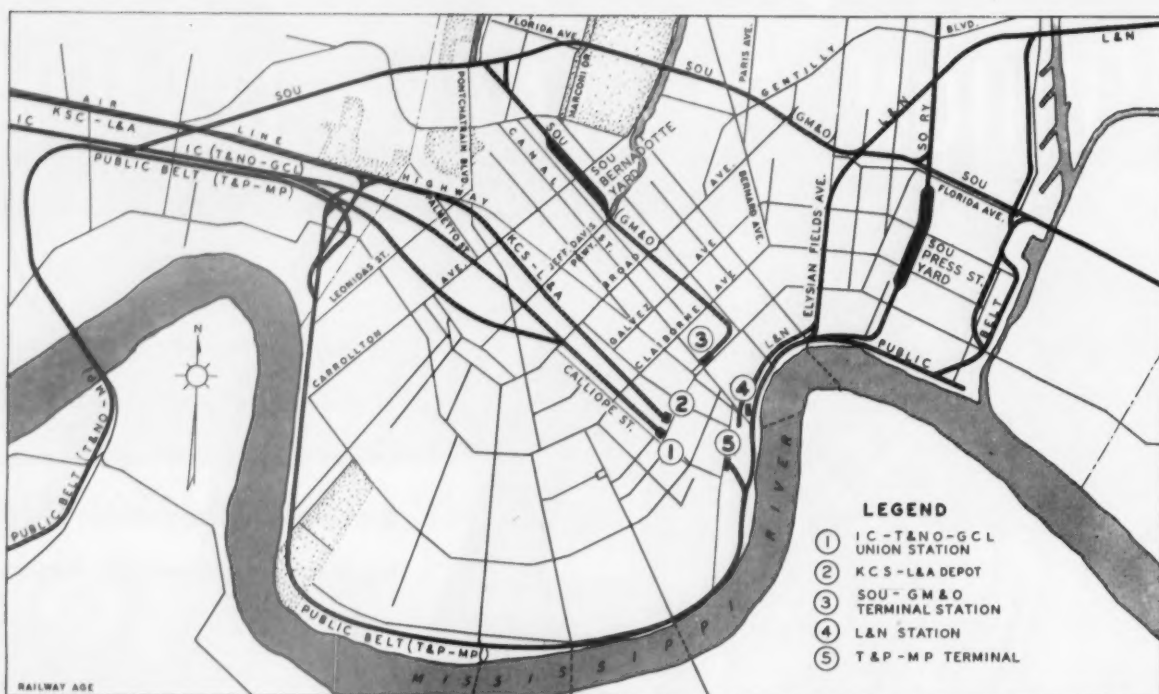
An aerial photograph of the New Orleans Union Passenger Terminal and the surrounding rail yard. The terminal is a large, rectangular building with a flat roof, situated at the bottom of the frame. To its left and extending upwards is a vast rail yard filled with numerous parallel tracks. To the right of the terminal is a large, irregularly shaped area that appears to be a parking lot or a landscaped area with some trees. The background shows a cityscape with various buildings and streets.

New Orleans

UNION PASSENGER TERMINAL

On May 1 ceremonies will be held at New Orleans in dedication of a unified passenger terminal, the central element in a huge grade-separation program. *Railway Age* marks the occasion by presenting in this issue six articles describing . . .

- New Orleans' Traffic Problem
- How Solved by Unified Terminal
- Features of the New Station
 - Car and Locomotive Facilities
 - Grade Separation Structures
 - Signaling and Communications



DOWNTOWN NEW ORLEANS was ringed by main railroad lines, with grade crossings at every turn. This map depicts conditions as they were before the grade crossing elimination-Union Passenger Terminal project started. Railroad passenger trains used five different

stations. The platforms of two of these stations crossed important downtown streets, necessitating blocking traffic whenever trains arrived, or were placed for departure. To make matters worse, these stations were busiest when the need for the streets was most acute.

Traffic Strangulation —

When automobiles begin to become immobilized in city congestion due to narrow streets and frequent railroad crossings, it's as though the city's life blood were slowing down, beginning to clot. New Orleans faced such a problem—and solved it by means of a huge grade crossing elimination project which includes a new Union Passenger Terminal.

Most business activities in New Orleans are closely associated with the city's role as a major seaport, with the business part of town hugging the river. It is an old city with narrow winding streets—the delight of tourists but a serious deterrent to essential commerce. To further complicate its troubles, the "downtown" area of the city is ringed by important main-line tracks of eight different railroads. Within the city limits there were 144 grade crossings involving main railroad lines and principal streets.

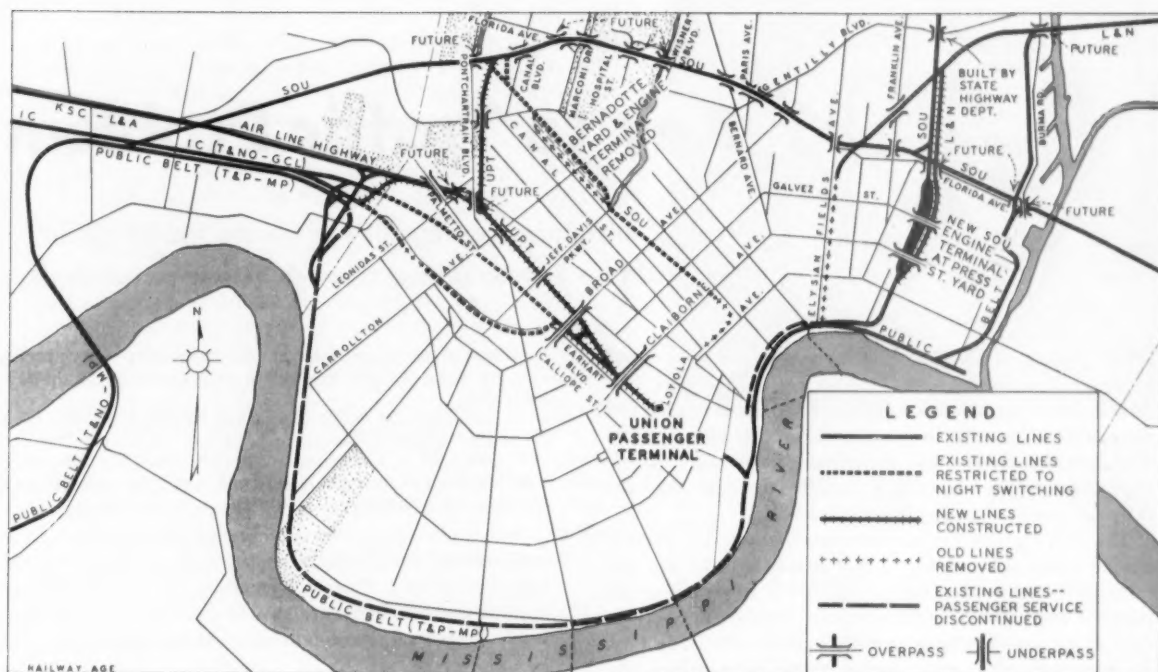
In the late thirties—with the rapid growth in auto traffic—the problem began reaching proportions where it became obvious to everyone that action would soon be necessary.

With the major change in political regimes which took place in both the state and the city in 1937, several prominent local citizens were encouraged to bring about

(in 1933) the formation of a city planning commission (following passage of enabling legislation by the state legislature)—to map an overall approach to the problem. There was also formed a committee composed of representatives of the eight railroads serving the city, the city government, and two prominent local businessmen to provide a point of coordination between the city and the railroads in the search for an acceptable solution to joint and common problems.

This was not the first attempt at solving the problem. For nearly forty years the city of New Orleans had been trying to get the railroads to abandon the five separate passenger stations in favor of a single union station. But the plans all came to grief either because the railroads balked at huge expenditures which would produce no benefits for them, or the city voters refused to approve plans because of the large cost compared with the tangible benefits they would receive. Two separate plans were voted down, one in 1937, the other in 1939.

The new planning groups attacked the problem from the viewpoint of crossing elimination—unsnarling badly congested traffic—and found that construction of a union passenger terminal, coupled with plans for developing new expressways to and through the "downtown" part



HOW RAIL NETWORK WILL APPEAR when all of the grade separation projects now completed, underway or planned for the future are in service. The new routes being used by the passenger trains of the railroads serving New Orleans are shown, together with the old routes which have

been abandoned or restricted to night-time switching. The right of way of the IC's old southbound main line is being used for an extension of Earhart boulevard westward to the city limits, with tracks being relocated alongside the boulevard to provide access for industrial switching.

What New Orleans Did About It

of the city, would make it possible to reduce from 65 to 27 the number of grade crossings in need of immediate elimination. This represented a saving to New Orleans taxpayers of well over \$5 million as compared to the cost of previous plans—inasmuch as the city legally is required to pay most of the cost of such projects.

A comprehensive plan, calling for the construction of new expressways and a union passenger terminal, was placed before the voters in 1946 and—after a hard-fought battle—won. The Union Passenger Terminal is really a by-product of the overall plan for freeing city traffic—but it is the key which made the other far more important and significant developments possible.

Two fundamental considerations underlay the years of negotiation, and the preparation of final plans: (1) The city obviously could not solve its traffic problem without the active assistance of the railroads, because of the way busy rail lines encircled and penetrated the city. (2) The railroads did not need a union passenger terminal, because it would neither produce new traffic nor result in sufficient economies to offset the great expense involved. However, the railroads recognized that the city could hardly solve its traffic problem—except at prodigious expense—without some consolidation of railroad

tracks and railroad passenger stations within the city.

For its part, the city developed an entirely new plan for widened streets and new boulevards which would reduce the number of grade separations which had to be constructed. Several important routes for new highways were made available by abandoning and relocating railroad lines.

The following article explains more fully the role of the Union Passenger Terminal project in solving the city's traffic problem, and tells how the project was financed and how much it cost. However, the two maps on these pages give a before-and-after picture of the manner in which traffic congestion has been relieved by the separation of grades along with the abandonment or restriction of railroad service on some lines.

Mayor deLesseps S. Morrison of New Orleans, commenting on the new terminal, said: "The program will not only accommodate the traveling public by replacing five obsolete, scattered depots with one union station—but it has enabled us to achieve something New Orleans has needed for many years and never had before—the separation of rail and street traffic, which involved the most comprehensive grade-separation plan ever conceived in conjunction with a new rail terminal."



THE NEW TERMINAL . . .

Key to Traffic Problem

Project introduces concept of city-owned union station—to be paid for by tenant lines through annual rental charges

New Orleans doesn't look the same anymore — new boulevards, wide streets, and a new Union Passenger Terminal have "opened up" the city, and greatly changed its external appearance (see map on preceding page). The change is the result of an eight-year railroad crossing-elimination project involving the city, the state, and the railroad systems serving New Orleans.

The New Orleans Union Passenger Terminal is unusual among railroad terminals in that it was built by the city (though the railroads are paying for it by retiring city bonds), and in that its construction opened the way to vast street and highway improvements within the city. As compared with other similar terminals, the New Orleans station is neither big nor expensive. Although its construction was part of a \$56 million project, the station itself, together with the trainsheds, baggage and mail facilities, cost less than \$5 million.

Before the project was started, there were 144 railroad-street crossings at grade in the city of New Orleans—and only one crossing elimination structure. In the eight years since the project first got under way:

- 26 crossings have been completely removed by abandoning railroad lines.
- 33 crossings have been closed because of the proximity of high capacity grade separation structures.
- 57 crossings have been rendered less dangerous by rerout-

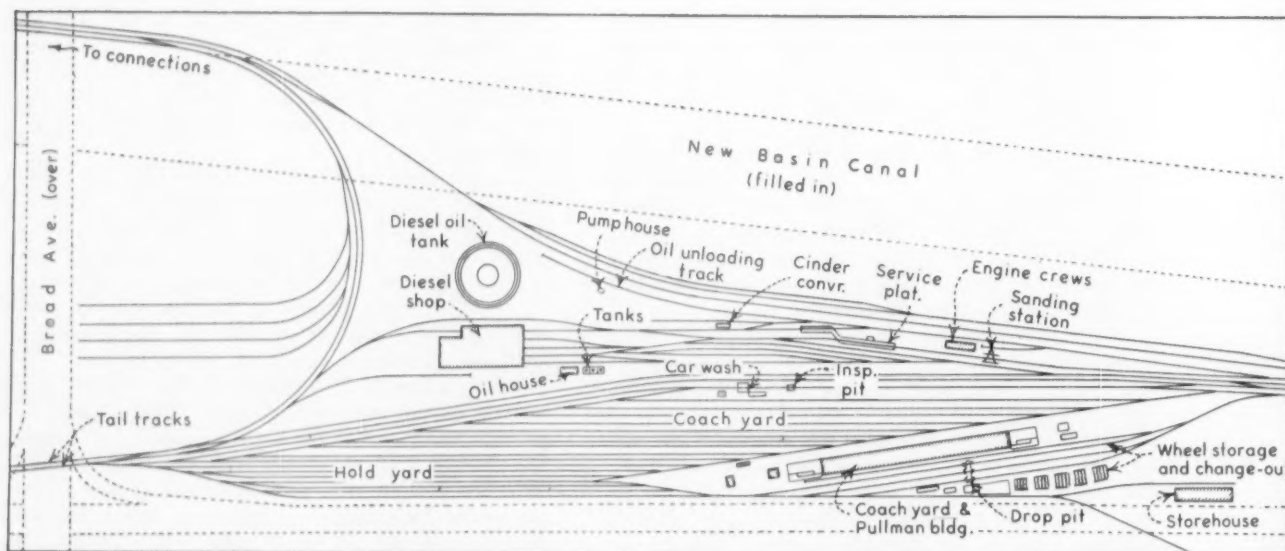
ing through passenger and freight trains over other tracks, and by reducing the remaining rail traffic to night-time switching.

—24 crossings are being eliminated by the construction of 23 grade-separation structures; 14 are now completed.

—4 crossings will remain, amply protected by automatic warning devices, but grade separation structures have been planned for construction within the next five years.

Actual provisions of how the work and expense of the multitude of details in the vast project should be shared between the city, state and federal governments and the eight railroad systems are spelled out in a 250-page contract. In general, the total cost of the project is divided as follows:

Cost to Railroads . . .		
Of new station building	\$ 2,250,000	
Of passenger yards and tracks	13,750,000	
Of highway underpasses and overpasses	3,519,000	
Of changes in individual facilities	4,875,000	
		\$24,394,000
Cost to Taxpayers . . .		
City expenditure for related arterial streets	\$ 3,535,000	
City share of highway overpasses and underpasses	19,724,000	
State and federal share of highway overpasses and underpasses, etc.	8,515,000	
		\$31,774,000
Total Cost of Project		\$56,168,000



TERMINAL FACILITIES include, in addition to the passenger station, everything needed to prepare locomotives

and cars for their return trips. Movements into and out of stations are controlled from the interlocking tower near

Construction of the Union Passenger Terminal, and its attendant yards, tracks, and servicing facilities, was financed by means of a \$15 million bond issue voted by the city of New Orleans. These bonds will be retired over a 50-year period by means of annual rental charges paid by the railroads using the facility. These charges are, according to the contract, to be sufficient to pay interest on and amortization of the bonds. Thus the cost of the terminal will not be carried by the city.

The city's share of the cost of the grade-separation projects was financed by means of a \$12 million bond issue and an additional \$7 million bond issue.

An interesting feature of the contract is an arrangement whereby the terminal is a city-owned facility, to be maintained and operated at the expense of the tenant lines. A park in front of the station building is to be maintained by the city park commission.

The state of Louisiana and the federal government participated in the cost of grade separation structures wherever state and federal highways were involved. Two crossing elimination structures are being built by the state, with the city and railroads participating in the costs.

How Operated

Eight railroad systems are parties to the Union Passenger Terminal Agreement:

- Illinois Central
- Southern (including the New Orleans & North Eastern, and the New Orleans Terminal—the so-called "Outer Belt")
- Kansas City Southern-Louisiana & Arkansas
- Southern Pacific (Texas & New Orleans)
- Texas & Pacific
- Missouri Pacific (including the Gulf Coast Lines)
- Louisville & Nashville
- Gulf, Mobile & Ohio

Although a party to the contract, the GM&O has discontinued operation of its one local passenger train.

Control of actual operation of the Union Passenger

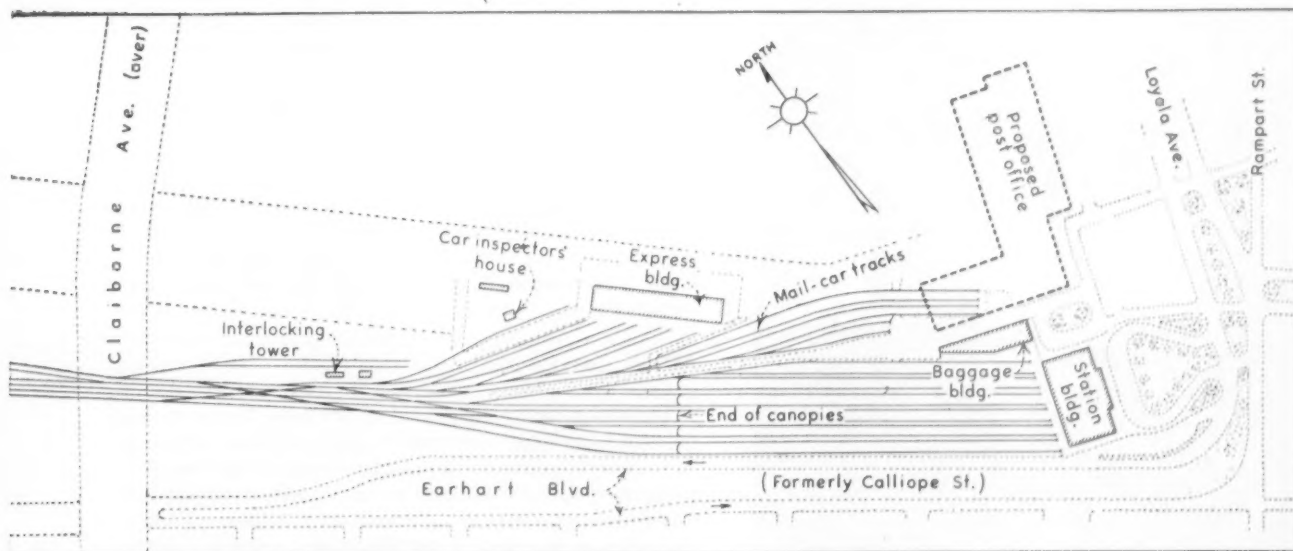


CENTRAL LOCATION of the new Union Passenger Terminal in close proximity to the business district is an advantage. Diesel shop can be seen in lower left-hand corner, adjacent to coach-yard facilities. The long overpass carries South Claiborne avenue.

Terminal, and its tracks and facilities, is vested in the New Orleans Union Passenger Terminal Committee on which the city and the participating railroads each have members. Operations all come under the jurisdiction of a terminal manager.

The switching of cars and trains is handled by terminal employees using terminal-owned switching engines. All operations in the coach yard, diesel shop and locomotive servicing facilities are conducted by the terminal—except for those normally performed by the Pullman Company in connection with its sleeping and parlor car operations and the Railway Express Agency, which leases facilities from the terminal to conduct its operations.

Terminal manager of the new facility is C. J. Wallace. During the five-year period of construction, Mr. Wallace was chief engineer of the project.



Claiborne avenue. Incoming trains, arriving over the tracks at the upper left-hand corner of the map (on the opposite

page), will head around the wye track and then back into the passenger terminal station.



STATION FACADE reflects the underlying objective of the designers—to predicate general lines of building on

functional considerations. Permanency of materials was another guiding factor.



Station Combines Beauty with Utility

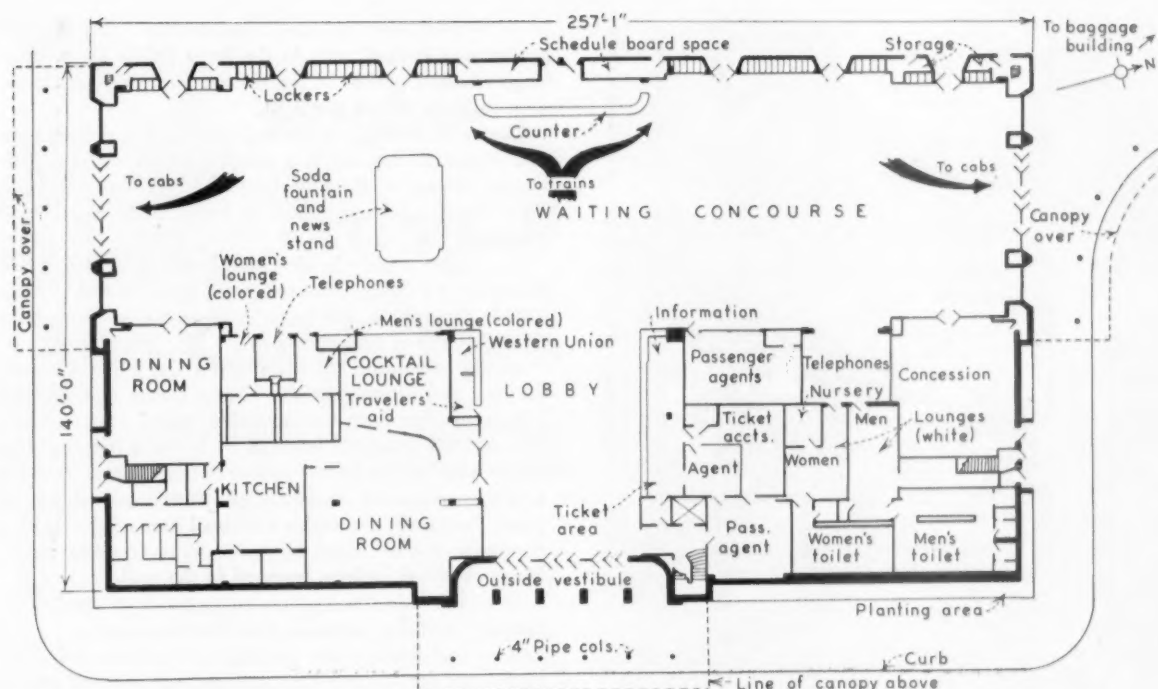


MAIN ENTRANCE is dominated by large areas of plate glass set in aluminum frames.

As major American passenger stations go, the one at New Orleans may be classed as moderately large, but it is not so much its size as its efficient arrangement and architectural treatment that is outstanding. To the casual observer the new station is an imposing architectural creation in the modern manner, gleaming with newness; to the railroad patron it provides a means whereby he may quickly and easily move to or from his train, or from train to train, with facilities at hand, and in the proper places, for making travel arrangements or satisfying other needs, in pleasant, colorful and spacious surroundings.

All on One Level

The design and arrangement of the new station were dictated to a large extent by the stub-end track layout. This logically called for a structure in which the flow of traffic moving to trains is in a direct route through the structure from the main entrance at the front to the trainshed in the rear. A maximum of convenience for the patrons is afforded by the fact that the route through the station, all public facilities in the building, and the



PUBLIC FACILITIES in station are all on one level and are laid out to minimize interference between passengers

moving to trains and inbound patrons heading for cabs at ends of structure.

tracks and the approach streets all are on the same level. Also on this same level is a separate baggage building at the north end of and slightly behind the station building.

The floor plan discloses how the station interior is dominated by the "waiting concourse" which extends its entire length on the track side. This concourse is connected with the main entrance in front of the building by a lobby flanked on one side by the ticket counter and information booth and on the other side by the dining room and booths for Western Union and Travelers' Aid.

Doorways are provided at both ends of the waiting concourse, primarily for the use of incoming passengers. Space for waiting cabs is provided at each end of the station. A combination newsstand and soda fountain in the waiting concourse separates the space for colored patrons at the south end from that for white passengers at the other end. The center of the west wall of the concourse is dominated by the train schedule boards and a counter that serves for checking-in purposes and for handling baggage. Here also are located the Gray Line sightseeing and Hertz Rent-a-Car concessions.

Except on week ends, there is no central reservation bureau in the Union Station; tenant railroads will continue to handle reservations individually through their downtown ticket offices. However, on Saturdays and Sundays, when these offices are closed, a reservation bureau for all the tenant railroads will be operated in the station.

From a structural standpoint the building is in two parts—the waiting concourse in which the roof is supported by transverse trusses, and the remainder of the building which is a two-story structure. The second floor of this portion, reached by a self-service elevator in addition to stairways, contains the offices of the terminal man-

ager, auditor, treasurer, special agent, claim agent, and maintenance supervisors. Also there is a board room and an assembly room for employees. Other space on this level is rented to the Pullman Company and to the Western Railways' Weighing and Inspection Bureau.

The architectural treatment of the station follows contemporary practice in that functional considerations were allowed to determine the general lines of the building. Also inherent in this treatment is the concept that the money invested in the structure is put into permanent high-quality materials in place of ornamentation.

The exterior walls of the structure are faced with veined limestone while the trim and the base course consist of a reddish-brown Minnesota granite. The facade is windowless on the first floor and is dominated by a central motif over the main entrance featured by large plate-glass windows set in aluminum frames. Sash throughout the structure is also of aluminum. A canopy at the main entrance is edged with aluminum and supported by pipe columns faced with aluminum. Similar canopies are placed outside the end doorways in the waiting concourse.

Imported Materials Featured

Considerations motivating the selection of materials for the interior were permanency and appearance. The result is a completely attractive and colorful effect. The predominant material for the walls in the lobby and waiting concourse is Red Antique marble from Italy. All counters are faced with Rose de Brignolle marble from France. Bottocchino marble from Italy provides the background for baggage counter, and Red Verona marble, also from Italy, was used for the trim around this counter.

The floors in the lobby and concourse are of terrazzo



WAITING CONCOURSE has comfortable settees upholstered with plastic material. Color is chartreuse. Plywood legs and arm rests add to comfort by imparting slight springing action.



COUNTERS in lobby are recessed flush with walls to facilitate traffic flow. Camera here was facing through lobby and across waiting concourse.

in a colorful and attractive combination. Ceilings are acoustically treated, and, in the large public areas, have large recessed panels of fluorescent fixtures with aluminum grills to deflect the light.

The upper portion of the wall area in the waiting concourse will be devoted to a colorful fresco mural depicting the history of the Louisiana and Gulf Coast regions. This mural, still unfinished, is being done by Conrad Albrezio.

The entire station is air conditioned, with the cooled or heated air being delivered through aluminum anemostats in the ceilings. All doors, grills, and trim in the public spaces are of aluminum.

Special attention has been given the color schemes, fixtures and lighting in the dining rooms and cocktail lounge to give them an attractive, colorful appearance. The cocktail lounge is featured by indirect lighting. One of the walls of this room—the one separating it from the waiting concourse—consists of translucent structural glass. Practically the entire west wall area of the waiting concourse not occupied by train doors is taken up by banks of parcel lockers, recessed in the wall.

In addition to the baggage room the first floor of the baggage building contains a service shop, storage space and a machinery room housing the boilers and other equipment for heating the baggage building and station and for air-conditioning the station. Here also are compressors for furnishing air for train lines in the trainshed.

Space on the second floor of this building includes wash and locker rooms for the conductors, trainmen and porters of tenant lines, and for terminal employees working in the station area.

Trainshed Has 12 Tracks

The trainshed consists of 12 tracks, ranging in capacity from 10 to 20 cars, which are served by 6 concrete island platforms. The platforms are protected by butterfly-type shelters consisting of steel posts and framing with roofs of corrugated asbestos-cement covered by 2 in. of lightweight concrete poured in place. This in turn is covered by built-up roofing.

Plans for further development of the Union Station area include the future construction of a post office directly north of the station. On this side of the station trainshed are six tracks for loading and unloading mail from railway cars. The terminal area also includes express-handling facilities located immediately west of the mail-car tracks. These facilities consist of a steel and concrete building with tailboard space on one side and served on the other by six house tracks flanked by car-floor-level platforms, and two team tracks. This building is leased by the Union Passenger Terminal to the Railway Express Agency.

All facilities were designed and constructed under the general supervision of the chief engineer of the terminal. Plans and specifications for the Union Station building were prepared jointly by three architectural firms in New Orleans, namely, August Perez & Associates, Wogan & Bernard, and Jules K. DeLavernne. Plans and specifications for the trainshed and the express building were prepared by the building department of the Illinois Central.



Engine Terminal And Coach Yard

Complete facilities are provided for servicing locomotives and passenger equipment of tenant lines

One of the services that must be rendered by the New Orleans Union Passenger Terminal to its tenant lines is to provide facilities and personnel for doing whatever may be required to prepare locomotives and passenger cars for their return trips. The facilities for this purpose are located about one-half mile west of the Union Station building, as shown by the map on page 23.

The diesel servicing and repair shop, with overall dimensions of 120 ft by 243 ft, is served by five tracks, two of them in a high bay where the floor is flush with the top of rail. A drop table and a 7½-ton traveling crane are provided in this bay. The other three tracks are in a low bay, where two of them are served by a typical arrangement of depressed floor levels flanking the pits, and working platforms at cab-floor height. These two tracks, as well as the two in the high bay, are stub end. The third track in the low bay extends through the building.

Although the roads entering the terminal are largely dieselized, it is expected that an occasional steam locomotive will have to be handled in the shop. For this reason, the floors flanking the through track have been placed at top-of-rail level but the pit and floor design and construction are such that depressed floors and elevated working platforms may be added later with a minimum of alteration work. At the rear of the diesel shop is a two-level arrangement of auxiliary facilities.

This building has concrete foundations, floors and pits and a structural steel frame. The siding above concrete curtain walls consists of corrugated asbestos-cement sheets. Fenestration is corrugated wire glass. The roof is covered by precast concrete slabs.

Principal facilities provided in the coach yard are:

- A five-track coach-servicing yard, served by concrete island platforms with overhead air and water lines on alternate platforms. On a separate track is provided a car washer and under-track inspection pit in which two men are stationed to inspect each train as it is being washed.
- A coach-yard building, 50 ft wide and 528 ft long, of which a portion is occupied under lease by the Pullman Company.
- Wheel storage and changeout facilities includ-



DIESEL SHOP at the new terminal, of modern design and arrangement, has Teletype machine over which shop foreman receives information regarding repairs needed by incoming locomotives.



CENTRAL FACILITY in coach yard is a large building, part of which is occupied under lease by the Pullman Company. In this view the wheel storage and changeout facilities are at left and in left background.

ing a lathe for turning wheels, a three-track drop pit for changing them out, an eight car wash pit, and separate wheel-storage space for each tenant railroad.

- An eight-track hold yard where trains may be switched after being serviced in the coach yard.

The coach yard building is similar in construction to the diesel shop, and is a two-story structure. That portion occupied by the Pullman Company is equipped for making repairs to air-conditioning equipment, motors, compressors, condensers, metallic conduit, air hose and steam hose. It contains a storeroom, machine shop, linen room, commissary room, filter-cleaning room, and supply room for the car cleaners.

That portion of this building occupied by the car department of the UPT contains an air-brake shop and electric shop, a carpenter shop, a tin shop, a linen room, a supply room for the cleaners, storerooms and a room occupied by a concern that maintains car-lighting and air-conditioning equipment for the Southern.

All engineering work in connection with the design and construction of the locomotive terminal and coach-yard facilities was carried out under the general supervision of the chief engineer of the UPT. Detailed plans and specifications for the coach-yard building, the diesel shop, and other mechanical facilities were prepared by the engineering department of the Southern.



LEAP-FROGGING of main throughfares over approach tracks to new station (upper-right-hand corner) is shown in this view. Beginning in background these structures

carry South Claiborne avenue, South Broad avenue and Jefferson Davis parkway. In immediate foreground is Carrollton Avenue underpass.



Grade Separation On a Grand Scale

Broadly speaking there are two avenues of approach open when considering grade separation in a given city. The work may be carried out piecemeal over a long period, or the problem may be solved by a single, sweeping program designed to eliminate all troublesome spots in one master stroke. The latter alternative was the one adopted by the city of New Orleans, a fact that is readily apparent when it is considered that there was only one grade separation structure in the entire city at the time the project was undertaken for building the Union Passenger Terminal.

In a program integrated with the completion of the New Orleans passenger terminal the city has completed and placed in operation 14 grade-separation structures. Four more are under construction. As part of the program, but not yet undertaken, are 9 additional structures all of which the city has committed itself to start within ten years after the completion date of the terminal.

Another article in this issue explains how this grade-separation program, in combination with a plan for the improvement of streets and the construction of expressways, is designed to alleviate traffic congestion in the city insofar as it has been created by interference between railroad and street traffic. From an engineering viewpoint, the carrying out of the grade-separation phase of the



DEDICATION ceremonies are held by the city as each of the grade-separation structures is completed. This view was taken during the dedication of structure over Gentilly boulevard.



TYPICAL CONSTRUCTION of underpasses consists of steel spans on concrete piers and abutments. All steel spans have concrete fascia beams.

UPT program, involving as it will a total expenditure of approximately \$30,000,000, is in itself an undertaking of considerable magnitude.

As might be expected, the large majority of the grade-separation structures involved in the program are on those lines of railroad over which passenger trains gain access to the Union Station (see map, page 23). In fact, of the 14 grade-separation structures completed to date, only two are not located on these passenger-train routes. These two exceptions are overpasses carrying Galvez street and North Claiborne avenue over the Southern's Press Street yard in the eastern part of the city.

Several Costly Overpasses

Of the 12 grade-separation structures that have been built on the passenger routes, 4 are overpasses and 8 are underpasses. Most costly of those structures is an overpass carrying South Broad avenue over the UPT tracks about a mile west of the Union Station, which cost approximately \$4½ million. Even more costly, however, is an overpass being built to carry South Claiborne avenue over the UPT tracks in the vicinity of the Union Station. This structure, to cost \$5 million, is being built in two sections longitudinally. It was scheduled to be sufficiently advanced to permit it to take traffic on one roadway before the opening of the Union Station. Final completion of this overpass is scheduled for August 1954.

An unusual feature of the South Broad avenue overpass is that it was constructed longitudinally over one of the city's many covered canals, requiring that the floorbeams have a clear span transversely between piers placed along each side of the canal. In this, as well as the other, overpasses, typical construction consists of rolled-beam spans of silicon steel, framing into transverse floorbeams supported on concrete piers which, in turn, are carried on piles of timber or concrete-filled steel tubes.

Design of Underpasses

Railroad bridges at the underpass locations were all designed in accordance with recommended practices of the American Railway Engineering Association, and nearly all of them consist of through-girder or beam con-

struction supported on concrete piers and abutments. Wherever possible, rolled sections, sometimes of silicon steel, were used for the members. The bridge ties rest directly on the stringers and are placed flush with each other, i.e., without spaces between adjacent ties. To minimize tie-plate cutting of the ties, they are protected in all cases with tie pads. All the underpasses are provided with concrete fascia beams, which, along with the piers, abutments and wing walls, are treated with different designs or motifs to enhance the appearance.

Design of the underpass carrying Carrollton avenue under three tracks of the UPT presented something of a problem. Because this structure is adjacent to the Carrollton Avenue suburban station, where two island platforms are provided, the tracks are necessarily widened somewhat at this point. For this reason, the underpass in reality consists of three separate through-girder structures. Because of a combination of circumstances it was necessary to design this bridge with an unusually shallow floor system. As one means of achieving this, the ties are placed between the floorbeams and encased in concrete.

In the design of the underpasses a drainage problem was created by the fact that the ground level in the city is well below the level of Lake Pontchartrain. The city is drained by a system of canals from which drainage water is elevated to the lake level with the aid of booster stations. At each of the underpasses it was necessary to provide a pumping station to remove the normal ground water and storm water and discharge it into the canal system. These booster stations lift the water in increments of 14 ft a total height of 42 ft before it can be discharged into the lake.

Under the terms of agreement with the railroads, ownership of the grade separation structures is vested in the city. The underpass structures are to be maintained by the railroads at their own expense. Maintenance work on the overpasses is to be done by the city, but the railroads are to pay 65 per cent of the cost of such work, with the city paying the other 35 per cent.

Five local consulting engineering firms in New Orleans have shared in the design of the grade-separation structures. Designs for individual underpasses were checked by the engineering departments of the railroads involved.



MODERN SIGNALS AND COMMUNICATIONS FOR **Fast Train Handling**

Interlocking at throat of station tracks and six outlying plants are controlled from one machine—Loudspeakers for public address; phones for train starting; radio for contacting switch engine crews

Operations of the new Union Passenger Terminal extend from the new station building through Carrollton Jct. to East City Switch, as well as from Carrollton Jct. through KCS Jct. to Southport. On these tracks, the switches and signals at the various junctions, and at the throat entering the station, are included in seven electric interlockings, with traffic control arrangements between the interlockings so that, throughout this area, train movements are authorized by signal indications.

Each incoming train from Carrollton Jct. is headed around the wye from North Wye Jct. to South Wye Jct., and pulls up with the rear north of South Wye Jct. Then the train is backed down through South Wye Jct. on one or the other of two main tracks to the throat at Clara Street Tower, and on into one of the station tracks. Outbound trains from any station track head out through the throat at Clara street, and then on a single track (marked 3rd main on accompanying diagram) directly to North Wye Jct. and on to Carrollton Jct., from which point the trains of the L&N and Southern go to the right, and trains of other roads go to the left.

When a train arrives in the station, the road locomotives are cut off, and run out to the engine zone. A switch engine takes off the head-end cars, and sets them on the tracks at the mail and express buildings. Then the switch engine pulls the passenger cars out to the coach yard. Thus, eight moves are made through the Clara Street interlocking for each arriving train, and likewise eight such moves are made for each departing train. With 44 scheduled trains, this totals 352 moves daily, in addition to extra moves.

ONE MACHINE FOR SEVEN INTERLOCKINGS

The Clara Street interlocking, which extends from the station tracks through the throat to Claiborne avenue, includes 15 single switches, 2 crossovers, 10 double-slip switches and 45 home signals. The interlocking at South Wye Jct. includes 3 single switches, 1 crossover and 8 home signals. Poydras Jct. includes 1 single hand-throw switch and 3 signals. North Wye Jct. has 1 single switch, 3 crossovers, 11 home signals and 2 electrically locked switches. Poydras Yard Jct. includes 1 switch, 2 crossovers and 7 home signals. Carrollton Jct. includes 3 single switches, 4 crossovers, 11 home signals and 1 electrically locked switch. At KCS Jct. the interlocking includes 1 switch, 1 crossover and 5 home signals.

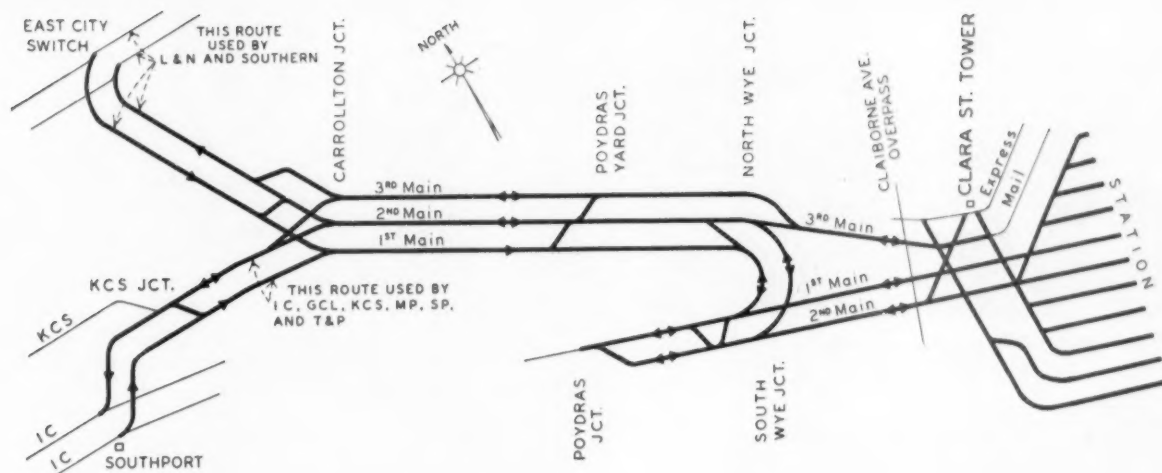
The seven interlockings are controlled from one panel type interlocking machine in the Clara Street Tower near the new station. On the illuminated track and signal diagram, each signal is represented by a knob. In the face of the knob is a frosted glass with a black arrow which is fixed to point in the direction which the corresponding signal controls.

The switches in the area from the station tracks out through the throat to Claiborne avenue are controlled by the Entrance-Exit system in which a route is set up when the towerman pushes one button, representing the signal governing the entrance to a route, and then pushes a button representing the exit of the route from home signal limits. Thus any route, which may involve as many as six switches and crossovers, is set up, and the signal cleared, within a few seconds. This fast and simple manipulation is important in saving time when changing routes through this complicated track layout. Alternate available routes are automatically selected, if the most direct route is not available.

At the outlying interlockings, at the wye junctions, and at Poydras Yard Jct., Carrollton Jct., and KCS Jct., the intervals between train moves are longer, and the layouts are simple. Therefore, in the portions of the control panel applying to these outlying interlockings, each switch or crossover is controlled by a toggle-type lever, mounted in the panel below the symbol for that switch on the diagram. Having thus lined up the switches and crossovers, the towerman then pushes the corresponding entrance and exit buttons for the route desired.

Interlocking signals, and intermediate automatic signals, where required, are arranged for train operation in both directions on both tracks, between Clara Street and South Wye Jct.; on both tracks between South Wye Jct. and North Wye Jct. to Poydras Jct.; on the 2nd and 3rd mains between North Wye Jct. and Carrollton Jct.; on the north track between Carrollton Jct. and KCS Jct.; and on the single track between Clara Street Tower and North Wye. Other sections of track are signaled for one direction only.

Where the tracks are signaled for both directions, two trains can be operated simultaneously in the same direction on parallel tracks. This helps to handle peaks of incoming trains in the morning, and outgoing peaks in the evening. For example, if an inbound IC train and an inbound KCS train approach KCS Jct. about the same time, they can move side by side on the parallel tracks from KCS Jct., through Carrollton Jct., North Wye and South Wye, and then back down through the throat to station tracks, all at the same time. Similarly, outbound trains, after passing North Wye, can run on parallel tracks.



MAIN TRACKS shown here illustrate relationship of interlockings at Clara street and six outlying junctions used by trains entering and leaving station.

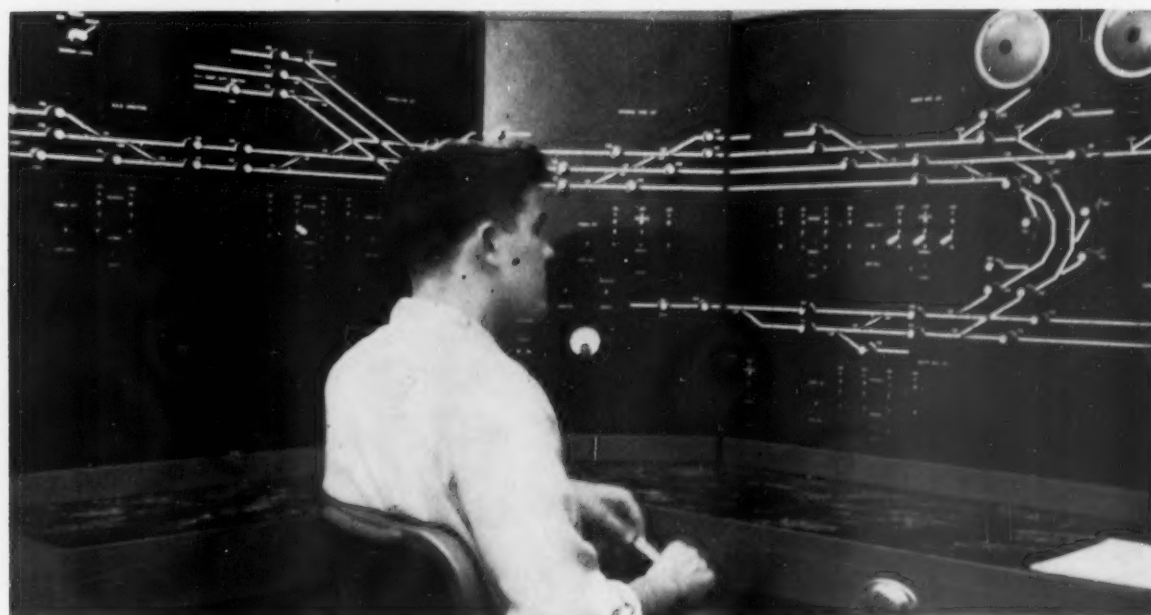
The signaling and interlocking for the Union Passenger Terminal were planned by a committee consisting of the signal engineers of the railroads which use the terminal. Many of the final details and inspection were handled by signal department forces of the Illinois Central. The interlockings and signals were manufactured and installed by the General Railway Signal Company.

Phones and Radio

Several modern communications systems, each for its own purpose, were installed as part of the new terminal project. A public address system is used for announcing the departure and arrival of trains. There are loudspeakers



THROAT at Clara street tower through which trains are directed on into the station in the distance.



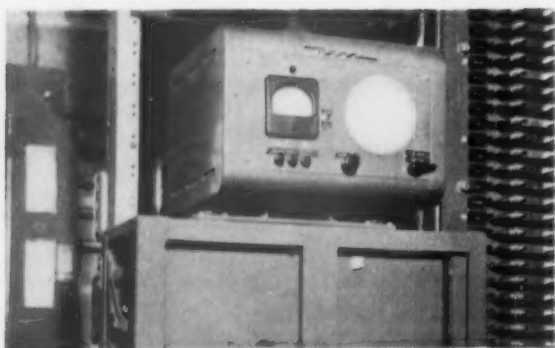
CLARA STREET tower controls interlockings at the station and six junctions with this one machine.



TRAIN STARTER phones tower that a train is ready to leave the Union Passenger Terminal station.



PUBLIC ADDRESS loudspeaker system includes this console which contains amplifiers and control panel.



RADIO EQUIPMENT installed in tower is used for communication with switch engines in the yard.

ers in the waiting rooms, restaurants, rest rooms, and on the concourse. Microphones are located at the information desk, and on the main concourse. The amplifier equipment for this system was made by Dukane, St. Charles, Ill.

The towerman in the new Clara Street tower has direct control of the movement of trains. On his control machine are two loudspeakers, a microphone and a communication panel, known as the concentration unit. Connected in this concentration unit are telephone circuits to dispatchers of some of the railroads which operate

trains into the terminal, and to operators in the Southport interlocking, and the East City Switch interlocking.

Also connected to the communications panel at Clara Street tower is a separate set of telephones used for train starting. Such a phone is installed in a small cast iron box at every other bumper post in the station concourse. When a train is due to depart, the train starter goes to the nearest bumper-post phone and lifts the receiver. This causes an indication lamp to light above the corresponding key on the panel in the Clara Street tower. When the towerman answers, the train starter says, for example, "No. 2 ready to go." Then the towerman clears the interlocking home signal for the train to depart. Thus, the telephones constitute a very simple and efficient train-starting system.

Special telephones, in boxes at Carrollton Avenue station and at all outlying junctions, permit trainmen and conductors to call the towerman at Clara Street tower. Such a call from a trainman comes in on the No. 2 loudspeaker on the towerman's desk; when he operates his line selection key, the circuit is switched to use the No. 1 loudspeaker for the conversation. This leaves the No. 2 loudspeaker to receive other calls. An Automatic Electric Company Type 48 battery eliminator furnishes the principal source of d-c energy to feed the communications systems.

Each signal maintainer carries a portable telephone. These phones can be plugged into jacks in the switch machines, relay cases and instrument houses at numerous places about the terminal. Thus, a maintainer can call the towerman, for example. When making tests, one maintainer may be in the relay room in the Clara Street tower, and a second man may be at one of the remote interlockings. In such instances, these men can use their test phones to ring each other, and to carry on conversations without bothering the towerman. The test telephone sets are the Type 10 Mono-Phone type, made by Automatic Electric Company, Chicago.

Keyboard Teletype machines, which print messages on tape, are placed in the Clara Street tower, in the office of the supervisor of trains, in the office in the engine-house and in the office in the coach yard. These Teletype machines transmit information on the arrival of trains, makeup of trains, etc. A Fansteel selenium rectifier furnishes the d-c power for the Teletype system.

RADIO ON SWITCHERS

Diesel switch engines operated by the Union Passenger Terminal do all switching of cars in and out of the terminal, coach yard, mail building and express and baggage platforms. The three switchers assigned to this service are equipped with Motorola radio. Fixed station radio was installed at Clara Street tower, so that radio calls can be made either way between the towerman and crews on the switch engines. This use of radio saves a lot of time, which is especially important during morning and evening peaks of traffic.

The communications installation (except the public address system) was planned by a committee consisting of the superintendents of communications of the railroads which use the terminal. The detail plans were prepared and the construction was done by a force of the communications department of the Illinois Central.

PARTIAL LIST OF SUPPLIERS OF MATERIALS AND PRODUCTS USED IN NEW ORLEANS UNION PASSENGER TERMINAL

Solderless wire terminals Aircraft-Marine Products, Inc., Havertown, Pa.
Steel buildings and pipe Arco Drainage & Metal Products, Inc., Middletown, Ohio.
Telephone equipment Automatic Electric Company, Chicago.
Swivel joints for pipe lines Barco Manufacturing Company, Chicago.
Aluminum windows William Bayley Company, Springfield, Ohio.
Storage tanks for oil storehouse Bowser, Inc., Ft. Wayne, Ind.
Wrought iron pipe A. M. Byers Company, Pittsburgh.
Fork lift trucks Clark Equipment Company, Battle Creek, Mich.
Boilers Cleaver-Brooks Company, Milwaukee, Wis.
Switch material Conley Frog & Switch Co., Memphis, Tenn.
Copper wire Copperweld Steel Company, Glassport, Pa.
Communications power supply equipment Cornell-Dubilier Electric Corp., Converter Division, Indianapolis, Ind.
Plumbing supplies Crane Company, Chicago.
Public address system Dukane Corporation, St. Charles, Ill.
Storage batteries Thomas A. Edison, Inc., Bloomfield, N. J.
Copper cable Okonite Company, New York.

Storage batteries Electric Storage Battery Company, Philadelphia.
Tie tampers Electric Tamper & Equipment Co., Ludington, Mich.
Diesel locomotives Electro-Motive Division, General Motors Corporation, LaGrange, Ill.
Sand tower Fairbanks, Morse & Co., Chicago.
Motor cars Fairmont Railway Motors, Inc., Fairmont, Minn.
Battery chargers Fansteel Metallurgical Corporation, North Chicago.
Baggage trucks French & Hecht Division, Kelsey-Hayes Wheel Company, Davenport, Iowa.
Electrical apparatus and accessories General Electric Company, Schenectady, N. Y.
Signal equipment General Railway Signal Company, Rochester, N. Y.
Warehouse truck Hyster Company, Portland, Ore.
Air compressors Ingersoll-Rand Company, New York.
Movable partitions and acoustical tile Johns-Manville, New York.
Materials handling equipment Kalamazoo Manufacturing Company, Kalamazoo, Mich.
Signal cable Kerite Company, Inc., New York.
Overhead doors Kinnear Manufacturing Company, Columbus, Ohio.
Drop table Whiting Corporation, Harvey, Ill.

Filter cleaning machines Magnus Chemical Company, Inc., Garwood, N. J.
Radio equipment Motorola, Inc., Chicago.
Track tools and equipment Nordberg Manufacturing Company, Milwaukee, Wis.
Filter cleaning machines Paxton-Mitchell Co., Omaha, Neb.
Track materials The P&M Co., Chicago.
Track materials Pettibone-Mulliken Corporation, Chicago.
Plate glass Pittsburgh Plate Glass Company, Pittsburgh.
Rail joints Rail Joint Company, Inc., New York.
Signal material Railroad Accessories Corporation, New York.
Track materials Ramapo Ajax Division, American Brake Shoe Company, Chicago.
Teletype equipment Teletype Corporation, Chicago.
Bumping posts Wasco Supply Company, Chicago.
Track tools and equipment Warren Tool Corporation, Warren, Ohio.
Track materials Weir Kilby Corporation, Cincinnati, Ohio.
Signal and communications material Western Railroad Supply Company, Chicago.
Air-brake testing equipment Westinghouse Air Brake Company, Air Brake Division, Wilmerding, Pa.
Electrical apparatus and supplies Westinghouse Electric Corporation, Pittsburgh.
Electric driven trucks Yale & Towne Manufacturing Co., Stamford, Conn.

Equipment & Supplies

FREIGHT CARS

Net of 130,000 New Freight Cars Needed in 5 Years

If the present ratio of ton-miles of freight moved to population is to be maintained in the face of an anticipated U.S. population increase to 170 million within the next five years, there must be a net increase of at least 130,000 freight cars, Gustav Metzman, chairman of the American Railway Car Institute, said in New York on April 15. Mr. Metzman, addressing the monthly dinner meeting of the New York Railroad Club, said this increase should be over and above replacement of old freight cars which must be retired during that period.

To accomplish these results, the former New York Central chief executive said, some way must be found for railroads to acquire an adequate car supply; ordering of freight cars must be stabilized on the basis of long-term planning and budgeting; and the independent car building industry must be preserved as an integral part of the railroad industry.

"No other American industry has ever been asked to operate under such handicaps as those which daily confront railroads," Mr. Metzman pointed out, "yet they go on hanging up new records, setting new standards of efficiency and rendering better and greater service to the American public."

The present major need of railroads, if they are to meet the improved services of competing agencies, is an adequate, modern fleet of freight cars, he continued. About 657,500 freight cars in the present fleet have passed the quarter-century mark in service, and

unless the normal annual retirement of 60,000-65,000 cars is maintained, no progress will be made in producing the freight cars required to meet needs of the rail transportation industry. Orders on books of car builders now are at the lowest point in many years. Mr. Metzman added, and orders placed during the first quarter of 1954 are about half of what one month's normal retirements should be.

The **Green Bay & Western** is building two cabooses at a cost of \$24,300. The company has acquired a Giddings & Lewis car wheel and diesel locomotive tire boring mill at a cost of \$54,000.

The **Missouri Pacific** has ordered 35 50-ton flat cars from its DeSoto, Mo., shops. Construction is scheduled to begin next September.

The **Union Pacific** has ordered 100 PS-2 covered hopper cars from the Pullman-Standard Car Manufacturing Company. The cars, scheduled for delivery in June, will cost approximately \$1.2 million.

LOCOMOTIVES

Locomotive Installations

Class I railroads, in the first three months of 1954, installed in service 421 new locomotive units, all diesel-electric, except for one gas turbine-electric, the Association of American Railroads announced April 21. Of the total, 159 locomotive units were installed in January, 80 in February and 182 in March. In the first three months of 1953, Class I railroads installed 574 locomotive units, all diesel-electric except for five steam.

Class I railroads on April 1, 1954, had 365 new locomotive units on order. These included 341 diesel-electric

units, 10 electric, and 14 gas turbine-electric. Class I railroads on April 1, 1953, had 853 new locomotive units on order, of which 814 were diesel-electric, 10 steam, 10 electric, and 19 gas turbine-electric.

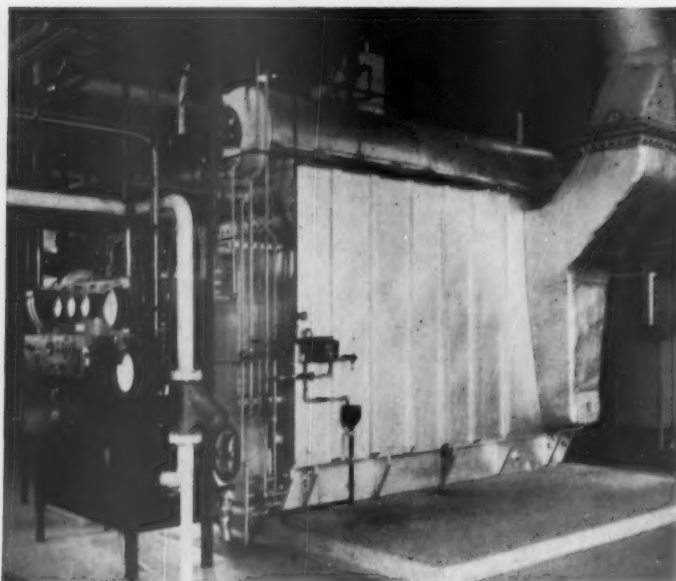
New Facilities

Mo Pac Projects Top \$1.8 Million

Major construction projects, planned or in progress on the Missouri Pacific, represent a total expenditure exceeding \$1.8 million. A line revision project between Dodson, Mo., and Martin City—about seven miles, beginning some 15 miles from Kansas City—will cost an estimated \$800,000. This includes purchase of right-of-way, construction of concrete culverts, substructure for bridges, and necessary grading. The Geo. Bennett Construction Company, Kansas City, is handling grading, bridges and culverts, while remaining work will be undertaken by railroad forces.

Railroad forces will: Build inside servicing facilities for diesel locomotives at North Little Rock, Ark. (\$396,000); install CTC on two main tracks between North Little Rock and Holland (\$215,900); replace bridges at Shawmut, Ark., and Witherspoon (\$126,000); rebuild bridges at Harviell, Mo., Bierne, Ark., Shawmut and Graysonia (total, \$145,800); construct a yard track at Sterlington, La. (\$51,465); extend block signal system between North Junction, Ill., and Gale (\$37,000); and replace falsework of the Cuming Street bridge, Omaha (\$51,700). The remainder of this lat-

A Package Boiler With *Many* Advantages



The Type "VP" Package Boiler is the most widely used design in industrial boilers with capacities of from 4,000 to 30,000 lb. of steam per hour.

Principal features of the Type "VP" Package Boiler are:

Shop Assembly	All Water-cooled Furnace
Pressurized Furnace	Ease of Installation
No Short-circuiting of gases	Automatic Control

**The Product of a Company Outstanding
in the Field of Steam Generation.**

**Readily adaptable to Railroad Shops
and Terminals.**

Write for a copy of our catalog on the "VP" Boiler...
there is no obligation. A copy should be in the
files of every railroad that uses steam.

THE SUPERHEATER COMPANY

Division of COMBUSTION ENGINEERING, INC.

200 Madison Ave.
NEW YORK



Bankers Building
CHICAGO

Esco Steam Locomotive Equipment
All Types of Steam Generating Fuel Burning and Related Equipment

ter project will be undertaken by the state of Nebraska.

Chesapeake & Ohio.—C. J. Geyer, vice-president in charge of construction and maintenance, has announced start of a \$1,069,000 improvement program at Stevens yard, Cincinnati. Plans call for installation of automatic car retarders and automatic switches in the eastbound hump yard. All work will be done by the road's own forces.

Green Bay & Western.—Replacement of a car ferry apron at Kewaunee, Wis., and changes to the revetment surrounding the slip, are being carried out at a cost of \$225,000. The company also is rebuilding bridge seats and protection structures of the bridge over the Fox river at Green Bay, Wis., at a cost of \$100,000. The tie plates, rail and rail anchors purchased for the 1954 rail program total \$106,500.

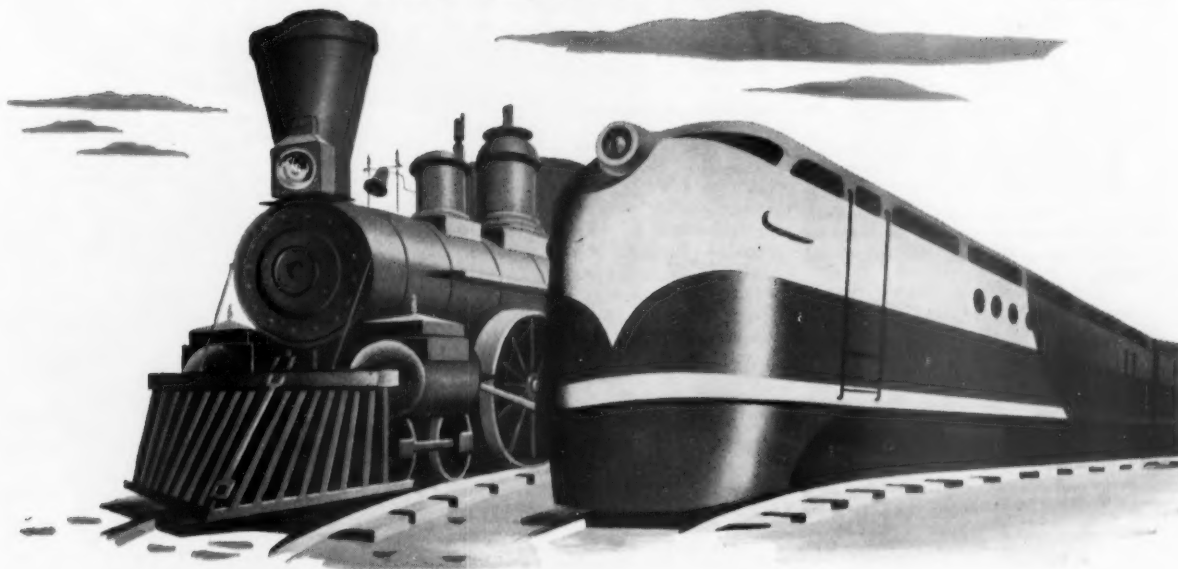
Reading.—This road has applied to the ICC for authority to build a 3.36-mile line from Laurel Dale Station, Pa., to Bladon Station. The new line, financed from treasury funds, will reduce the grade and provide for more economical operation.

St. Louis-San Francisco.—A 1.17-mile main-line relocation is being carried out near St. Clair, Mo., at a cost of \$195,000, by company forces. At Mansfield, Mo., one mile of track is being relocated to eliminate a double sag; this project is likewise being handled by company forces at a cost of about \$30,000.

Other projects currently being undertaken by company forces include: Construction of new storeroom building at Amory, Miss. (\$27,000); installation of telephone circuit between Neodesha, Okla., and Wichita, Kan. (\$54,000); installation of Teletype equipment at Kansas City, Springfield, Mo., Ft. Scott, Kan., Tulsa, Okla., Yale, Tenn., and Amory (\$40,000); replacement of steam heating equipment at Amory with automatic gas-fired boilers (\$62,000); relocation and extension of yard trackage at Sherman, Tex. (\$31,000); raising of 1.41 miles of track near Boyd, Ala. (on Alabama, Tennessee & Northern) (\$32,000); installation of pile and steel jetties in North Canadian river near Weleetka, Okla. (\$26,000); construction of concrete and steel overpass at Kirkwood, Mo. (\$50,000); extension of siding at Sedgewick, Ark. (\$27,000); replacement with concrete slab construction of 24 panels of the Meramac River bridge near Ten Brook, Mo. (\$51,000); and reconstruction work on Bridge 358.6 near Hardy, Ark. (\$38,000) and Bridge 775.1, near Kimbrough, Ala. (\$41,000).

Seaboard Air Line.—A contract for approximately \$285,000 has been let to Dickinson, Inc., of Monroe, N.C., (Continued on page 38)

**Pioneers in
dependable travel
... the RAILROADS**



**Pioneers in
Dependable
Service ...**

IN LOCOMOTIVES
AND CABOOSES
DIXIE WATER CUPS
AND DISPENSERS
KEEP CREWS AT
EFFICIENCY-PEAK!



DIXIE HOT AND
COLD DRINK CUPS
SPEED SNACK-CAR
AND BUTCHER SALES!



DIXIE WATER CUPS
KEEP COACH AND
SLEEPING CAR
PASSENGERS
REFRESHED!



**Dixie
Cups**

● For over 30 years, Dixie has pioneered in the development of specialized equipment for the railroad industry. Through those years, railroad passengers have come to look for Dixie Cups as a sign of fresh, clean service.

There's a complete variety of Dixie Dispensers, and cups for every railroad need. For water service, Dixie Cups are available in either cone or flat-bottom shapes. Dixie is the standard on leading railroads everywhere. You'll find it's good business to maintain customer satisfaction with Dixie Cups.

DIXIE CUP COMPANY

Easton, Pa., Chicago, Ill., Darlington, S. C., Ft. Smith,
Ark., Anaheim, Calif., Brampton, Ont., Canada



Dixie is a registered trade mark of the Dixie Cup Company

New Facilities

(Continued from page 36)

for construction of a yardmaster's office building at this road's new classification yard being built at Hamlet, N.C. (*Railway Age*, June 22, 1953, page 30; March 29, page 6; and April 12, page 14). The four-story building, completion of which is expected by next October 7, will be the main yard office. Bids for construction of other buildings in the new yard will be opened May 17.

The road has completed the laying of 100-lb rail in place of 90-lb on 24 miles of track between Charlotte, N.C., and Monroe, and has begun to lay 115-lb rail in place of 100-lb on 11 miles of main line just north of Hamlet.

Southern Pacific.—Approximately \$500,000 will be spent to construct 13 new tracks, aggregating about nine miles of additional trackage, in the Alfalfa unit of El Paso, Tex., yard. A wye connection with the line to Tucumcari, N.M., also will be built. Construction of the new yard trackage will be undertaken jointly by the SP's Pacific lines and the Texas & New Orleans.

Securities

Akron, Canton & Youngstown.—*Stock Split.*—This road has applied

to the ICC for approval of a plan whereby its common stock would be split on a five-for-one basis. The plan contemplates issuance of 114,820 shares of no-par common in exchange for 22,964 shares of \$100-par stock. The application also seeks authority to substitute new shares for old in carrying out those phases of the applicant's reorganization plan which involve exchange of stock for bonds, warrants and scrip certificates. Also involved is an increase from 100,000 to 500,000 shares, in the total amount of common authorized.

Illinois Central.—*Stock Split.*—This road has amended its application to the ICC for approval of a plan whereby its common and preferred stock would be split on a two-for-one basis (*Railway Age*, April 5, page 8). The amendment increased by 372,914 shares the proposed issue of new common. These additional shares would be held for conversion of the new preferred which would be convertible on a share-for-share basis.

Dividends Declared

GEORGIA RR & BANKING CO.—\$1.75, quarterly, payable April 15 to holders of record April 1.

GOSHEN & DECKERTOWN.—40¢, annual, payable April 20 to holders of record April 13.

LAKE SUPERIOR & ISHPEMING.—35¢, quarterly, payable April 15 to holders of record April 1.

LITTLE MIAMI.—original, \$1.10, quarterly; special guaranteed, 50¢, quarterly; both payable June 10, September 10, December 10, 1954, and March 10, 1955, to holders of record May 18, August 18, November 18, 1954, and February 18, 1955, respectively.

MONTGOMERY & ERIE.—17½¢, semiannual, payable May 10 to holders of record April 30.

ONTARIO & QUEBEC.—\$3, semiannual, payable June 1 to holders of record May 1.

RICHMOND, FREDERICKSBURG & POTOMAC.—6% guaranteed, 75¢, semiannual; 7% guaranteed, 87½¢, semiannual; both payable May 1 to holders of record April 30.

Security Price Averages

	April 20	Prev. Week	Last Year
Average price of 20 representative railway stocks	61.69	62.50	64.63
Average price of 20 representative railway bonds	94.88	94.79	92.92

Applications

NEW YORK CENTRAL.—To issue \$680,000 of promissory notes to finance in part the acquisition, through conditional sales agreements, of 10 steel deck scows and 6 steel covered freight barges from the Bethlehem Steel Company. Total cost of the equipment, to be used in New York harbor, would be \$901,932—unit costs of the scows and barges being \$49,605 and \$67,647, respectively. The notes, bearing interest at 3¼ per cent, would be payable in 20 quarterly installments, beginning September 1, 1954.

NORTHERN PACIFIC.—To assume liability for \$4,575,000 of equipment trust certificates to finance in part equipment which is expected to cost \$5,730,800.

Description and Builder	Estimated Unit Cost
4 1,750-hp diesel-electric road switching locomotives (Electro-Motive Division, General Motors Corporation)	\$171,750
7 Lightweight steel dome passenger cars (The Budd Company)	238,700
2 Lightweight steel coaches (Pullman-Standard Car Manufacturing Company)	179,000
2 Lightweight steel parlor-lounge cars (Pullman-Standard)	201,200
275 50-ton refrigerator cars (NP Shops)	9,500

The certificates, dated May 14, would mature in 15 annual installments of \$305,000 each, beginning May 14, 1955. They would be sold by competitive bids, with the interest rate to be set by such bids.

SOUTHERN PACIFIC.—To assume liability for \$7,905,000 of series NN equipment trust certificates to finance in part acquisition of 35 1,750-hp diesel freight units from the Electro-Motive Division, General Motors Corporation, at prices ranging from \$172,704 to \$220,655; 384 flat cars from the Southern Pacific Equipment Company at \$7,355.50 per car; and six lightweight steel passenger cars from the Budd Company at \$163,253 per car. Total cost of the equipment is estimated at about \$10½ million. The certificates, dated April 1, would mature in 15 annual installments of \$527,000 each, beginning April 1, 1955. They would be sold by competitive bidding with the interest rate to be set by such bid.

Supply Trade

Harold M. Robson has been appointed central division sales manager of **Farr Company**, at Chicago.

Distribution of **Colson Corporation** products has been expanded into Florida and Alabama, with the opening of a sales and stock office in Jacksonville by **Wrenn Brothers**, Charlotte, N.C., southeastern representatives; and in Birmingham by **Wurzburg Brothers**, of Memphis.

E. W. McCaul has been appointed vice-president, sales, of **Jervis B. Webb Company**, Detroit.

Fairbanks, Morse & Co., has organized a new electronics division for research, development, application engineering and manufacture of electronic devices and apparatus used with



FIFTY NEW ROLLER-BEARING hopper cars have just been put into service by the Western Maryland between the Ida May coal mine at Chiefton, W. Va., and the railroad's marine terminal at Port Covington, Baltimore. The 55-ton cars, built by Bethlehem Steel Company as part of a late-1952 order for 500, have Timken bearings. They will be op-

erated in a block, and records will be carefully maintained "to see if the roller bearings provide savings over conventional bearings." Ends of the cars, and a band along the tops, are painted yellow for easy identification. Shown here, pointing to the roller-bearing journals, is **Joseph M. Miller**, superintendent of the WM's Cumberland division.

NEW

DOOR CATALOG

IDEAS

FULL OF FACTS

HANDY

HELPFUL

You'll have full information on cost-cutting doors for every need in this new 1954 Kinnear catalog.

It gives you full, up-to-the-minute information on how to save maximum space, cut costs, boost efficiency and get more protection at doorways in old or new buildings. In addition to complete data on Kinnear Steel Rolling Doors—the doors with the famous, *Kinnear-originated* curtain of interlocking steel slats—it tells all about Kinnear Steel Rolling Fire Doors, sectional-type Kinnear RōL-TOP Doors, and the protective Kinnear Steel Rolling Grilles. Write for your FREE copy TODAY!

SAVING WAYS IN DOORWAYS

KINNEAR
ROLLING DOORS

The KINNEAR
Manufacturing Company

FACTORIES: { 2020-40 Fields Ave., Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.

Offices and Agents in Principal Cities



BEN COLMAN, who has been president of General American-Evans Company for the past three years, has rejoined Evans Products Company (*Railway Age*, March 29).

various Fairbanks-Morse products, principally scales. It will be under management of **L. J. Maguire**, formerly general manager of the company's St. Johnsbury, Vt., works.

Wright-Hibbard Industrial Electric Truck Company has appointed **Adrian Drew**, 125 South Third street, Minneapolis, as distributor in the Minneapolis-St. Paul area.

Floyd G. Brimmell, district manager of the Electrical division of **Olin Industries, Inc.**, at Chicago, has been appointed assistant to sales manager, at New Haven, Conn.

Matthew J. Campbell has become associated with **Smyth, Sanford & Gerard, Inc.**, insurance, as manager of the railroad department, at New York. For the past six years Mr. Campbell has been connected with the Railroad Insurance Rating Bureau and the Inland Marine Insurance Bureau. He also has served as secretary of Company Service Corporation.

The **Wasco Supply Company**, Chicago, has taken over manufacture and sale of the Durable line of bumping posts formerly produced by **Albert Letterman Company**.

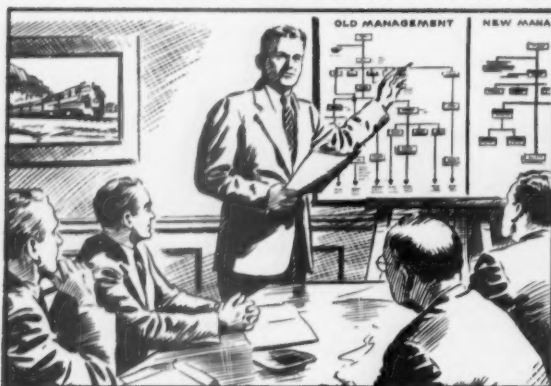
G. P. Oldham has been appointed general sales manager of **Gustin-Bacon Manufacturing Company**, succeeding **F. H. Ebbert**, vice-president, assigned to other executive duties. Mr. Oldham was formerly general marketing manager for **Kaiser Aluminum & Chemical Corp.**

Ogontz Controls Company, Philadelphia, has been appointed agent for distribution of railway equipment items for **Robertshaw Fulton Controls Company**, Fulton Sylphon division. The company will be headed by **T. J. Kenny**, who has been associated with the Sylphon control system. (Continued on page 42)

\$9.3 Million gain highlights New York

President White's review of his first full year shows revenue increase three times the average for nation's railroads ... many new operating economies ... earnings up from \$3.83 to \$5.27 per share ... dividends doubled.

BRIEFS FROM NEW YORK CENTRAL 1953 REPORT TO STOCKHOLDERS



1. Management Streamlining Saves \$600,000. We have strengthened our management set-up by streamlining the organization ... Some levels of supervision have been entirely eliminated, making for a more flexible, better integrated team. Among other benefits is better staff work ... A much closer cooperation between transportation and maintenance officers is another advantage ... The organizational changes alone are bringing us a saving of nearly \$600,000 a year in executive payroll.



2. Better Service Builds Traffic. Better on-time performance of both freight and passenger trains, smoother-riding track and more efficient maintenance ... are strengthening our competitive position. Operating revenues, at \$825,348,776, were the highest in Central's history. They topped 1952's by \$18,000,000 ... This was nearly three times the percentage increase registered by the railroad industry as a whole.



3. More Track Work for \$3.7 Million Less. Further step-up in the riding quality of our track is a priority objective in our over-all program of improvement. Increased mechanization of track work and a high degree of management coordination are enabling us to attain that goal efficiently and economically. While reducing maintenance of way expenses by \$3,700,000 ... we accomplished considerably more track work ... 1,906 miles of track were surfaced with mechanical tampers in 1953, compared with 905 miles in 1952.



4. Many-Sided Attack on Passenger Deficit. Unprofitable services totaling more than 2,740,000 train miles a year were pruned off our operations ... We are also aggressively bidding for increased traffic on those passenger trains which operate at a profit ... We are promoting "travel packages" ... family fares ... bargain fares for group travel ... round-trip coach travel on selected routes offering 33 1/3% savings ... the Manhattan Trip Ticket ... to determine whether reduction of coach fares will increase ... net income.

in net earnings Central Annual Report



5. Better Use of Equipment Helps Cut Capital Outlay. Our average gross tons per freight train in 1953 were 7.5% above 1951, while gross ton-miles per train-hour were up nearly 14% . . . Our capital outlay for improvements in 1953 totaled approximately \$83,000,000. This was a sharp reduction from 1952's figure of \$140,000,000. This year . . . we are trying to hold capital expenditures to not more than \$40,000,000 . . . a modest sum for a railroad the size of New York Central.



6. Best Net Since 1944 Doubles Dividends. With costs controlled and revenues increased, net income improved substantially. At \$34,002,039 it was 37.6% above 1952's . . . and the highest since 1944 . . . This permitted dividends totaling . . . twice the amount paid in 1952 . . . To protect and enhance the investment of our shareowners demands continued energetic work of a management that knows railroading . . . Given that type of direction by the present new management, there is sound basis for an optimistic view.



New York Central

OPERATIONS ENGINEERS

Specify STRATOFLEX

★ DETACHABLE
HOSE FITTINGS

★ FLEXIBLE
HOSE ASSEMBLIES

STRATOFLEX Hose Fittings and Hose Assemblies are designed to give dependable service and maximum performance in the industry. Cost-minded operators in the industry recommend STRATOFLEX! Whatever your requirements in flexible hose assemblies and detachable reusable hose fittings—straight or elbow hose fittings—specify STRATOFLEX!

★ DEPENDABLE
SERVICE

★ QUALITY
PRODUCTS

WRITE FOR
COMPLETE
INFORMATION

STRATOFLEX

STRATOFLEX, Inc. FORT WORTH, TEXAS
P. O. BOX 10398
BRANCHES:
ATLANTA - CHICAGO - DAYTON - HOUSTON - KANSAS CITY
LOS ANGELES - MINNEAPOLIS - NEW YORK - ODESSA - TULSA
In Canada:
STRATOFLEX OF CANADA, Inc., TORONTO 18, ONTARIO

Supply Trade

(Continued from page 39)

tem for the past 20 years. **Sheffler-Gross Company**, Philadelphia, former distributor for Fulton Sylphon division has transferred its activities to the Ogontz Controls Company.

The **Union Asbestos & Rubber Co.** has appointed **Albarn Universal Limited** as distributor of "Unarco" heating and air conditioning units at Toronto.

Erie Industrial Trucks, Inc., Erie, Pa., has been granted a franchise for sale and service of **Clark Equipment Company** industrial fork lift trucks, in territory in Pennsylvania and Ohio.

W. P. Durbin, assistant advertising manager of the **Electro-Motive Division** of **General Motors Corporation**, has been promoted to advertising manager. Named as director of industrial relations is **Eugene X. Humphrey**, assistant director of industrial relations, who replaces **William H. Harvey**, newly appointed coordinator of new products.

Hal P. Kibbey has been appointed assistant vice-president—sales of **United States Steel Supply Division** of **United States Steel Corporation** at Chicago. Named as district sales manager at that point is **Clyde B. Colwell, Jr.**, who has been transferred from St. Paul. Mr. Colwell's successor is **Earl L. Simanek**, assistant district sales manager at Chicago.

Pennsylvania Salt Manufacturing Company has established two new divisions—the Industrial Chemicals and Chemical Specialties divisions—which will function as complete operating units responsible for manufacture and sale of their respective products. **William P. Drake**, vice-president, sales, has been named president of the Industrial Chemicals division, and **Albert H. Clem**, general

sales manager, has been made president of the Chemicals Specialties division.

George O. Whitesell, formerly system diesel supervisor for the Seaboard Air Line, has been appointed special railroad representative for **Oakite Products, Inc.**, at Jacksonville, Fla.

William Sorensen, vice-president in charge of the Atlantic division, **Kelite Products, Inc.**, has been promoted to executive vice-president and **R. C. Martin**, sales director, to vice-president, sales.

Irving T. Bennett has been elected chairman of the board of **General Cable Corporation**, succeeding **D. R. G. Palmer**, retired. Mr. Bennett will continue also as chief executive officer, a position he has held since August 1953.

George V. Dutney has joined the **Nordberg Manufacturing Company**, at New York, as special assistant to president. He was previously manager of sales to the steel, non-ferrous and special industries for **Johns-Manville Corporation**.

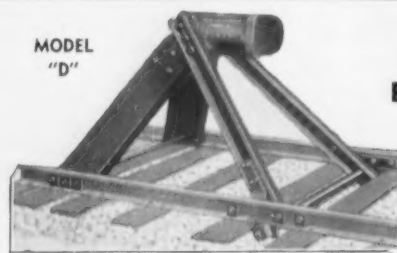
T. E. Aughinbaugh, assistant district sales manager for the motor truck division of **International Harvester Company**, at Indianapolis, has been promoted to assistant manager of sales, southern region, at Chicago.

J. D. Kelsey, who joined the **Standard Railway Equipment Manufacturing Company** in August 1953, has been appointed administrative assistant to president. Mr. Kelsey is a rear admiral, U.S. Navy, retired.

OBITUARY

Harry C. Hickey, western sales manager of the Rail Joint Company, at Chicago, died April 8.

LeRoy Kramer, retired vice-president of the General American Transportation Corporation, died April 10 in Chicago.



MODEL
"D"

DURABLE Bumping Posts

... chosen for the magnificent new Union Terminal in New Orleans. Freight and passenger tracks in the new terminal are equipped with these Durable Bumping Posts.

Manufactured and sold by

WASCO SUPPLY COMPANY
210 East Ohio Street, Chicago 11, Illinois

Easy to install.
Make track ends
safe. Write for
full details.

Railway Officers

BALTIMORE & OHIO.—**J. Stanley Lowe**, district freight agent at Buffalo, has been appointed assistant to freight traffic manager at Baltimore, succeeding the late **E. H. Gardner** (*Railway Age*, January 18). **Clyde F. Farmer, Jr.**, freight representative at New York, succeeds Mr. Lowe as district freight agent at Buffalo. **Carroll R. Bennett**, traveling freight agent at Dayton, Ohio, has been named district freight agent there, succeeding **Slade Freer, Jr.**, who has been appointed division freight agent at Toledo. Mr. Freer succeeds the late **D. W. Lang**.

CANADIAN PACIFIC.—**Dr. G. Earle Wight** has been appointed chief of medical services for the system at Montreal, succeeding the late **Major-General C. P. Fenwick** (*Railway Age*, March 29).

CHESAPEAKE & OHIO.—**E. G. McDougle**, assistant superintendent of the Newport News-Norfolk Terminal division, has been appointed superintendent of that division, at Newport News, Va., succeeding **J. F. Shaffer**, who has retired after nearly 44 years of service.

G. D. Mayor, assistant division engineer at Russell, Ky., has been appointed division engineer of the Huntington, W. Va., division.

CHICAGO & EASTERN ILLINOIS.—**K. Y. Medcalf** has been appointed general storekeeper at Danville, Ill., succeeding **W. M. Robertson**, who retired March 31.

DONORA SOUTHERN.—**James W. Hetherington** has been appointed assistant to general superintendent; **Clyde J. Haywood** has been named superintendent car service and freight agent, and **George T. Ririe** has been appointed trainmaster.

GULF, COLORADO & SANTA FE.—**R. H. Heinlen** has been named division engineer at Fort Worth, Tex., succeeding **S. W. Brady**, who has retired.

HANNIBAL CONNECTING.—**Henry W. Leap** has been appointed assistant secretary and assistant to vice-president at Hannibal, Mo., succeeding **Thomas Waterston**, who has retired after more than 30 years of service.

ILLINOIS CENTRAL.—**Harvey C. Marmaduke**, representative of the executive department at Chicago, will retire April 30. When the IC established its employees suggestion system in 1939, Mr. Marmaduke was appointed manager. "Developing thinking employees through suggestion plans can be profitable both to employees and management—and will

Congratulations to NEW ORLEANS UNION TERMINAL on this Milestone of Progress!

The South can view with pride the engineering achievement that makes your new Terminal the outstanding railroad construction accomplishment of the year.

As designers and builders of modern cleaning methods for railroads, we are indeed proud that the Magnus Method of diesel parts cleaning was selected for the important job of cleaning disassembled engine parts in your diesel overhaul shop.

Again, our sincere congratulations to all who have made possible this great new Terminal.



One of the Magnus Aja-Dip Cleaning Machines installed in the Diesel Shop of the New Orleans Union Terminal for cleaning diesel engine parts.



Railroad Division
MAGNUS CHEMICAL CO., INC.
South Avenue, Garwood, N. J.
In Canada—Magnus Chemicals, Ltd., Montreal
Representatives in All Principal Cities

improve employee relations," he says. "The success of any suggestion system depends on the support and continued interest of all those in supervision. It is the job of suggestion system administrators to convince this group that a suggestion system is a tool for their use in getting worthwhile ideas, developing thinking men and women, and improving management-employee relations."

KANSAS CITY SOUTHERN. — **Lloyd G. Pence** has been appointed general agent at San Francisco.

MICHIGAN CENTRAL. — **J. C. Schneider** has been appointed general

storekeeper at Detroit, succeeding the late **C. H. Dayton**.

MILWAUKEE. — **S. P. Elmslie**, general agent at Indianapolis, has been appointed division freight agent at Minneapolis, succeeding **George Neu**, promoted elsewhere. Mr. Elmslie's successor is **W. G. Orr**, traveling freight and passenger agent at New Orleans.

MISSOURI PACIFIC. — **George E. Alter** has been appointed assistant general freight agent at St. Louis.

NEW HAVEN. — See "McGinnis Heads New Haven," on page 7.

NORTHWESTERN PACIFIC. — **Charles E. Neal** has been appointed acting division engineer at San Rafael, Cal., succeeding **A. L. McHenry**, who is on leave of absence due to ill health.

SANTA FE. — **Frank L. George**, general agent at Portland, Ore., has been advanced to division freight agent at Oakland, Cal., succeeding the late **Horace C. Hunter**. Mr. George has been replaced by **Dudley J. Sutherland**, assistant division freight agent at Oakland, who in turn has been succeeded by **F. J. O'Drain**.

SEABOARD. — **T. S. Cooke, Jr.**,



One of the 10 double slip switches furnished by Weir-Kilby for the new station.

CONGRATULATIONS

NEW ORLEANS

ON YOUR NEW PASSENGER TERMINAL

We're glad to have contributed to your achievement with our engineering and manufacturing experience that enables us to take part in many special track-work installations such as yours. For diesel, steam, electric or industrial railways, Weir-Kilby furnishes a complete line of special trackwork.

Originators of Manganese Trackwork

WEIR-KILBY CORPORATION

DIVISION OF TAYLOR-WHARTON IRON & STEEL CO.
Est. 1742 • Plants in Birmingham, Alabama; Cincinnati, Ohio; Easton, Pennsylvania

CLASSIFIED DEPARTMENT

Educational Services for RAILROAD MEN

Our New Service
on
Diesel Locomotive
Operation
is highly recommended
for
Engineers and Firemen

*The Railway
Educational Bureau
Omaha 2, Nebraska*

OFFICE WORK

Man for office work in Frog and Switch Plant, experience in estimating jobs, cost control or accounting desirable. Write full particulars in first letter, give age, experience, etc.
NELSON IRON WORKS, INC.
45 Spokane Street
Seattle 4, Washington

WANTED

Graduate Civil Engineer to work for Class 1 Railroad in the Northeast. Applicant must be able to engage in all field and office work common to railroad maintenance, and must be able to competently handle structural analysis of bridges and buildings, prepare plans, and estimates, and do necessary field work in connection with bridge, building, and track maintenance, and construction. Salary \$3,936.00 per annum, or more, depending upon experience and qualifications, plus cost of living adjustment. Position has liberal pension, vacation and sickness benefits. Give complete details of education, experience and qualifications with application. Address Replies to Box 723, RAILWAY AGE, 30 Church St., New York 7, N. Y.

FOR SALE

112 lb. RE section Relaying Rails in No. 1 condition with angle bars to match. Drilling 6 1/2" — 5" — 6 1/2".
Address Replies to Box 724,
RAILWAY AGE
30 Church Street
New York 7, N. Y.

junior engineer for diesel locomotive units at Norfolk, has been named assistant shop superintendent at Portsmouth, Va. **R. W. Murray**, diesel instructor at Jacksonville, Fla., has been named general diesel supervisor at Norfolk, to fill the vacancy created by Mr. Cooke's appointment.

C. A. McRee, director of personnel, has been named assistant vice-president with headquarters as before at Nor-



C. A. McRee

folk. **J. S. Riggan**, assistant director of personnel, succeeds Mr. McRee as director of personnel. Mr. McRee is



J. S. Riggan

a native of Watkinsville, Ga., and a graduate of Georgia Institute of Technology. He began his career with the Seaboard in 1923 as an engineering inspector at Norfolk and became director of personnel in April 1950.

OBITUARY

Charles E. Kane, retired executive assistant of the Illinois Central, died April 16 at Santa Rosa, Cal.

E. Ellsworth Pancost, 58, treasurer of the New York Central and a number of subsidiary companies, died April 16 at his home in Dobbs Ferry, N.Y.

*The Complete Line
for Your Line!*

LAMSON
Railroad-Engineered
FASTENERS

CARRIAGE BOLTS

NUTS SQUARE & HEX

COTTERS

WEATHERTIGHT BOLTS

LAG SCREWS

MACHINE BOLTS

● Throughout the mighty railroad network that crisscrosses the country, Lamson quality fasteners perform countless important tasks behind the scenes. On locomotives and cars, on platforms and hand trucks, in fact on most railroad equipment, you'll find Lamson Railroad-Engineered bolts, nuts and screws.

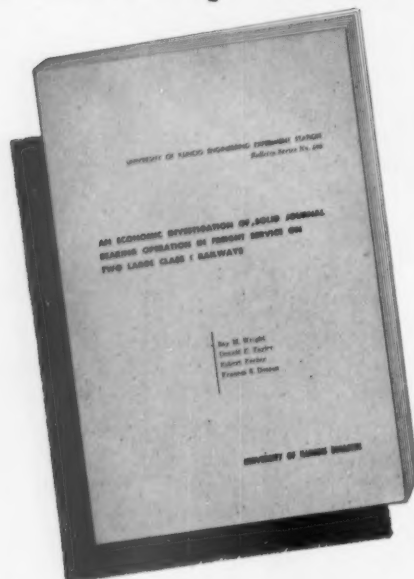
Yes, you're on the right track when you specify Lamson quality fasteners for *every* railroad need. It's the *complete* line that always delivers *complete* satisfaction.

RAILROAD SALES DEPARTMENT
THE LAMSON & SESSIONS CO.
General Offices: 1971 West 85th St., Cleveland 2, Ohio
Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

LAMSON & SESSIONS

FASTENERS THAT KEEP PACE WITH RAILROAD PROGRESS

University of Illinois Report **SUPPORTS** *of SOLID TYPE*



Analysis shows that all labor and material costs for solid bearing operation, including overhead expense, come to less than fair wear and tear allowance and interest on huge initial investment necessary for so-called "anti-friction" bearings.

If you need further evidence that solid bearings are the best buy for freight cars, just study the University of Illinois report. It's called "An Economic Investigation of Solid Journal Bearing Operation on Two Large Class I Railways." When you analyze this report in the light of high roller-type bearing costs, the big economic advantage of solid bearings stands out clearly. For example, all costs for labor and materials required for solid bearing operation, even as projected by the University of Illinois, come to less than the fair wear and tear allowance and interest on the huge initial investment necessary for non-standard roller-type bearings. Since this is so, any direct comparison of costs is bound to show the solid bearing to much, much greater advantage. Of course, any direct comparison would have to consider costs for tools and facilities, extra skilled labor and time for periodic disassembly, inspection and reassembly of non-standard bearings, as well as reflect realistically their known incidence of failure—and the high cost of those failures, too.

Cost of Fair Wear and Tear and Interest Per-1000-Car-Miles

At today's prices (about 1/3 that of comparable bearings for passenger cars) the average extra investment required to equip a freight car with high-cost roller bearings is about \$850.00. If interest is calculated at 4% and fair wear and tear, or actual depreciation, at 5%, the annual fixed charges on this extra investment would be \$76.50 per

car. This depreciation rate implies an average 20-year life for the non-standard bearings. If their average life proves to be less than 20 years, these annual fixed charges would be correspondingly higher.

In 1952 (the last year for which figures are now available) the average serviceable freight car moved 16,863 miles. Divide \$76.50 by 16.863 and you get the extra cost of these fixed charges per-1000-car-miles, or \$4.54, had this car been roller bearing equipped.

But according to the University of Illinois, maximum labor and material costs for solid bearing operation on one of the railroads studied were only \$4.51 per-1000-car-miles. On the other road these same costs in 1951, the highest year, came to only \$4.30 per-1000-car-miles—a big advantage in favor of solid bearings even when compared with the fixed charges alone for non-standard bearings.

It's important to note, too that wherever possible the University of Illinois used those unit costs for solid bearing labor and materials assigned by the AAR Code of Rules for Interchange. When this was not possible, as in the case of "freight lubrication labor," the cost was found by interpolation. Thus all items of labor and materials were charged at rates sufficient to cover indirect expense.

Applicability of the Report

Of course, it can be argued that a study made on two railroads should not be applied to others. That may be true. For one thing, the two roads studied averaged only 145,944

Freight Car Bearing Performance

The figures at the right clearly indicate a trend to improved journal bearing performance, even with today's faster train speeds and heavier loads.

Higher standards of maintenance and inspection, combined with selective adoption of available developments, can continue to improve solid bearing performance—to the point where the incidence of hot boxes may be reduced to insignificance.

PERIOD	TOTAL CAR MILES	CAR MILES PER HOT BOX	% INCREASE OVER 1951
1951	34,726,490,070	172,703	—
1952	34,313,975,558	190,109	10%
1953	34,355,017,965	219,762	27%

ECONOMIC ADVANTAGES

BEARINGS for freight cars

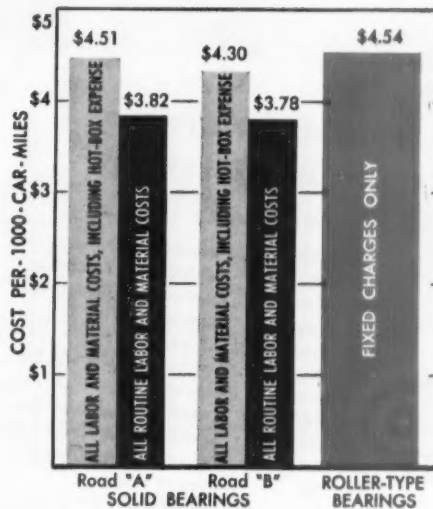
and 84,195 car miles per set-off in 1951—or 15.9% and 51.2% below the average for all roads for that year, and respectively about 33.6% and 61.9% below the average miles per set-off for all roads for 1953. Perhaps partly for that reason, too, the consumption of certain materials on these two roads, as indicated by the report, is considerably above the experience of most roads.

The University has also apparently charged all car inspectors' time (\$0.84 and \$0.91 per-1000-car-miles respectively in 1951 for the two roads studied) to the solid bearing assembly. In one instance, 7.39 inspector man-hours per 57-car train dispatched are included as solid bearing costs. Actually, on most roads it probably would be found that few, if any, car inspectors could be reassigned with safety even if bearings were no concern at all. There are just too many other items for them to check—wheels, brake shoes, couplers, end sills, door seals, and countless other items. Of course, to the extent that car inspectors' time would be required for other considerations, a still greater economic advantage in favor of solid bearings will be apparent.

Car and Train Delays

Railroads will also want to examine carefully the cost and number of delays attributed to bearing operation by the University. For 1951, a car delay day is estimated to cost over three times the regular demurrage rate now charged by the railroads. This high figure is based on several highly debatable assumptions. It is contended that potential gross earnings are lost because of delays and that these fictitious earnings can be included as costs. It is also contended that the railroads are required to keep on hand additional cars because of delay days due to journal bearings. But problematical earnings cannot reasonably be calculated as costs. Nor is it possible to show any relationship between the size of the car fleet and any estimated number of delay days attributed to solid bearings, or any other bearing or other car part for that matter. In fact, the Research Advisory Committee of Journal Bearing Manufacturers has proved that no such direct relationship can exist. (See *Railway Age*, Feb. 4, 1952.)

The biggest single item of car delay expense is said to be associated with train yard lubrication. But the University estimates that the average 60-car train is held an hour and twenty minutes for journal box servicing and inspection, and the total delay days for train yard lubrication are calculated from that basis. This would indicate that, for this phase of the report at least, the slide rule may have been substituted for time study observation. It also overlooks the fact that cars so serviced are already in a train, either as loads or empties.



The above chart compares uncorrected University of Illinois figures for solid bearing costs with fixed charges only on the extra investment for non-standard bearings. If solid bearing costs are corrected in accordance with analysis above, the big economic advantage of solid bearings becomes even more apparent.

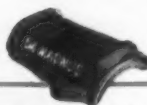
Value of the Report

Yet despite certain questionable assumptions and calculations, the University of Illinois report constitutes an earnest effort to contribute to the literature on journal bearing operation. Properly analyzed and applied, it proves the wisdom of present railroad policy to seek out and adopt the means for bettering standard bearing performance. For the most part, these means are already available. And as rapidly as they are adopted, solid bearing performance will improve still further. In fact, many roads are already showing significant improvement with higher maintenance standards alone. Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

MAGNUS Solid Bearings

Right for Railroads

...in performance ...in cost



MAGNUS METAL CORPORATION *Subsidiary of* **NATIONAL LEAD COMPANY**

180,000 freight cars have been built

1952-53 freight car orders using USS COR-TEN steel

DOMESTIC	NO.	TYPE	BUILDER
Athens, Topeka & Santa Fe	500	Gondola	Pressed Steel Car Co.
Chesapeake & Ohio	1000	Hopper	American Car & Foundry Co.
Chesapeake & Ohio	300	Gondola	American Car & Foundry Co.
Chesapeake & Ohio	1900	Hopper*	Company Shops
Chesapeake & Ohio	450	Gondola*	Company Shops
Delaware, Lackawanna & Western	500	Hopper	American Car & Foundry Co.
Denver & Rio Grande Western	1700	Gondola	General American Trans. Corp.
General American Transportation	600	Refrigerator	General American Trans. Corp.
General American Transportation	110	Cov. Hopper	General American Trans. Corp.
General American Transportation	1000	Refrigerator	General American Trans. Corp.
Great Northern	500	Box	Company Shops
Illinois Terminal	100	Hopper	Pressed Steel Car Co.
Norfolk & Western	300	Hopper	Company Shops
Norfolk & Western	300	Hopper	Company Shops
Norfolk & Western	1000	Gondola	Company Shops
Norfolk & Western	345	Hopper*	Company Shops
Orinoco Mining Company	560	Ore	Magor Car Corporation
St. Louis Refrigerator Car Co.	300	Refrigerator	Pressed Steel Car Co.
St. Louis, San Francisco	300	Gondola	Pullman-Standard Car Mfg. Co.
St. Louis, San Francisco	300	Hopper	Pullman-Standard Car Mfg. Co.
Seaboard Air Line	400	Cov. Hopper	American Car & Foundry Co.
Southern Pacific	1500	Box	Southern Pacific Equipment Co.
Southern Pacific	1000	Box	Southern Pacific Equipment Co.
Southern Pacific	1400	Box	Southern Pacific Equipment Co.
Southern Pacific	350	Gondola	Southern Pacific Equipment Co.
Southern Pacific	1600	Box	Pullman-Standard Car Mfg. Co.
Southern Pacific	1000	Auto Box	Southern Pacific Equipment Co.
Southern Pacific	250	Box	Southern Pacific Equipment Co.
Union Pacific	500	Auto Box	Company Shops
Union Pacific	500	Box	Company Shops
U.S. Steel, Fairless Works	12	Air Dump	Baldwin-Lima-Hamilton
Virginian	314	Hopper	Company Shops
Western Pacific	300	Gondola	General American Trans. Corp.
FOREIGN			
Canadian National	1400	Box	National Steel Car Co.
Canadian National	200	Cov. Hopper	Marine Industries, Ltd.
Canadian Pacific	100	Cov. Hopper	National Steel Car Co.
Canadian Pacific	150	Refrigerator	National Steel Car Co.
Canadian Pacific	500	Gondola	Eastern Car Co.
Mozambique Railways (Portuguese East Africa)	398	Gondola	Magor Car Corporation
Sydney & Louisburg	200	Hopper*	Eastern Car Co.
Union Miniere (Belgian Congo)	30	Air Dump	Baldwin-Lima-Hamilton
Union Miniere	24	Air Dump	Baldwin-Lima-Hamilton

*Rebuilt

1933



1953

USS HIGH STRENGTH STEEL

better with USS COR-TEN steel since 1933

IN THE LAST TWO YEARS, ORDERS HAVE BEEN PLACED FOR

22,000 freight cars

built with USS COR-TEN steel

● Look at this long list of recent orders for freight cars built with USS COR-TEN steel. Twenty-two railroads and other car users are represented here. Only four of them are using COR-TEN steel construction for the first time. The rest have had years of experience with equipment made of COR-TEN steel.

For example, the Chesapeake & Ohio, Seaboard Air Line and Union Pacific have been cutting operating and upkeep costs with COR-TEN steel cars for as long as 20 years. Among the first to put this superior steel to work, these three railroads have from time to time, since 1934, added to their original COR-TEN steel equipment and among them have now in service a total of over 32,000 cars of COR-TEN steel construction.

Their experience is typical. In other words, most of the orders now being placed for COR-TEN steel cars are *repeat orders*.

We emphasize this because it highlights the important fact that COR-TEN steel construction is bought again and again. And for good reason. Many years of superior service performance have proved that the high strength and high corrosion resistance of COR-TEN steel pay off in substantially reduced maintenance costs.

Today, many of the major railroads in America have considerable numbers of USS COR-TEN steel cars on their lines. In fact, more than 180,000 of these money-saving cars are now in service.

So satisfactory has been the performance of this equipment that not only here, but in Canada, in South and Central America and even in Africa, among cost-conscious railroad men, COR-TEN steel construction has come to mean "The best in freight car equipment."

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

4-698

UNITED STATES STEEL

In New Orleans—as well as elsewhere!

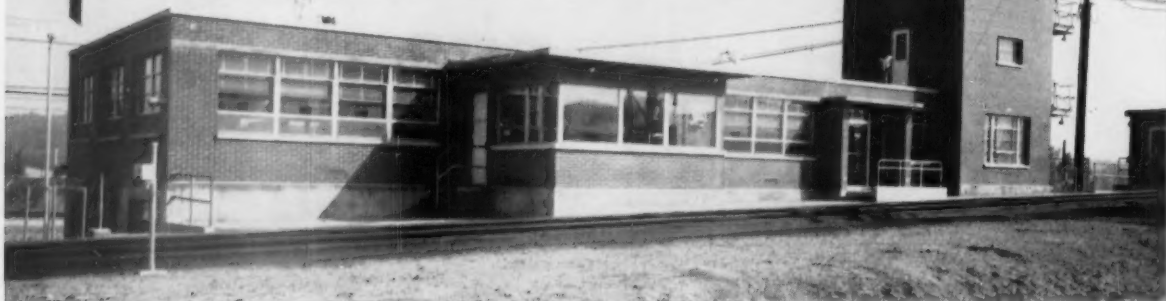
BAYLEY ALUMINUM PROJECTED WINDOWS

Better Meet the Needs of MODERN Railway Buildings

Durable, maintenance-free aluminum, simplicity of operation and quality of construction detail is winning for Bayley Aluminum Projected Windows a high preference among the Railway Purchasers. They also know that they can depend on Bayley's "75 years of Reliability".

The WILLIAM BAYLEY COMPANY

Springfield, Ohio



American Locomotive Co.	14, 15	National Aluminate Corp.	Inside Front Cover
Agency—Hazard Advtg. Co.		Agency—Armstrong Advtg. Agency	
American Steel & Wire Division of U. S. Steel Corp.	6, 48, 49	National Tube Division of U. S. Steel Corp.	6, 48, 49
Agency—Batten, Barton, Durstine & Osborn, Inc.		Agency—Batten, Barton, Durstine & Osborn, Inc.	
Bayley Co. The, William	50	Nelson Iron Works	44
Agency—Wheeler-Kight & Gainey		Agency—The Burke Co.	
Columbia-Geneva Steel, Division of U. S. Steel Corp.	6, 48, 49	New York Central System	40, 41
Agency—Batten, Barton, Durstine & Osborn, Inc.		Agency—Foote, Cone & Belding	
Conley Frog & Switch Co.	18	Railway Educational Bureau, The	44
Agency—Raymond Powell Agency		Railway Maintenance Corp.	51
Dixie Cup Co.	37	Agency—Walker & Downing	
Agency—Hicks & Greist, Inc.		Ryerson, Joseph T. & Son, Inc.	50
Electro-Motive Division, General Motors Corp. ..	13	Stratoflex, Inc.	42
Agency—Kudner Agency, Inc.		Agency—Magnussen & Teague Advtg.	
French & Hecht Division, Kelsey-Hayes Wheel Co.	20	Superheater Co., The	36
Agency—Fred A. Hinrichsen Adv.		Agency—G. M. Basford Co.	
General Railway Signal Co.	Back Cover	Tennessee Coal & Iron, Division of U. S. Steel Corp.	6, 48, 49
General Steel Castings	17	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Oakleigh R. French & Assoc.		Union Switch & Signal	2
Hunt-Spiller Mfg. Co.	52	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Charles M. Gray & Assoc., Inc.		United States Steel Corp.	6, 48, 49
Kinnear Mfg. Co., The	39	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Wheeler, Kight & Gainey, Inc.		United States Steel Export Co.	6, 48, 49
Lamson & Sessions Co., The	45	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Belden & Hickox		United States Steel Supply Division of U. S. Steel Corp.	6, 48, 49
Magnus Chemical Co., Inc.	43	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Spooner & Krieger		Wasco Supply Co.	42
Magnus Metal Corp.	46, 47	Weir-Kilby Corp., Division of Taylor-Wharton Iron & Steel Co.	44
Agency—Rickard & Co., Inc.		Agency—Strauchen & McKim, Advtg.	
W. H. Miner, Inc.	1	Westinghouse Air Brake Company	4
Minnesota Mining & Mfg. Co.	Inside Back Cover	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Batten, Barton, Durstine & Osborn, Inc.		Youngstown Steel Door Co.	Front Cover

STEEL in stock at RYERSON

Joseph T. Ryerson & Son, Inc., Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Charlotte, N. C., Jersey City, Pittsburgh, Los Angeles, San Francisco, Seattle, Spokane

BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.

PLATES—sheared & U. M., inland & 4-Way Floor Plate
SHEETS—hot & cold rolled, many types and coatings

TUBING—boiler & mechanical, seamless & welded
STAINLESS—Alloy plates, sheets, bars, tubes

CLEANS SHOULDER BALLAST

at speeds up to
2400 FT.
per hour!

McWilliams

**SUPER
MOLE**

Cleans ballast more efficiently than any other method—at speeds from 1000 to 2400 feet per hour. Clearing trains while operating, the Super Mole returns ballast to shoulder and delivers dirt to berm. It is mobile for movement around roadside obstructions, over crossings and across tracks.



Railway Maintenance Corporation

PITTSBURGH 30, PA.

DESIGNERS AND MANUFACTURERS OF: McWILLIAMS MOLE AND SUPER MOLE . . . McWILLIAMS
TIE TAMPER, CRIB CLEANER AND BALLAST DISTRIBUTOR . . . R. M. C. RAIL JOINT PACKING



**Increasing Volume
Effects
A PRICE REDUCTION**

GUN IRON

In HUNT-SPILLER

AIR COMPRESSOR CYLINDERS

The acceptance of HSGI Air Compressor Cylinders has been rapidly increasing . . . 42 of America's leading railroads are now using them for replacement purposes. Now, as a result of production economies made possible

by higher volume, prices have been reduced to make these by far the most outstanding values in diesel parts of this type. And these are some of the features which have contributed to the railroads' preference for these cylinders:



These two brochures give you the complete story of Hunt-Spiller products and the facilities behind them. Upon request, they are yours without obligation.

- Design refinements coupled with special Hunt-Spiller casting techniques have resulted in an addition of approximately 42% more area to heat-radiating fins.
- Fin area is concentrated at the head-end of cylinders for greatest heat dissipation.
- Because of greater fin area, overall operating temperature is reduced.
- They are made of Gun Iron, the material with the fine grained, dense, pearlitic structure which many generations of railroad men have recognized for its long life and even-wearing qualities.

If you would like full details including actual operation performances of these cylinders, we'll be more than glad to supply them. Why not get in touch with us today?



HUNT • SPILLER
MANUFACTURING CORPORATION

379 DORCHESTER AVENUE • SOUTH BOSTON 27, MASS.

Canadian Representatives: Joseph Rabb & Co., Ltd.
4030 Namur St., Montreal 16, P. Q.

Export Agents: International Rwy. Supply Co.,
30 Church Street, New York 7, N. Y.



The trim that put a **STOP** to crossing collisions on the M.T.



CUT-OUT NUMERALS and letters of Wide-angle, Flat-top silver "Scotchlite" Sheeting on a Minnesota Transfer Railway Diesel. The striping is yellow Wide-angle Flat-top "Scotchlite" Sheeting.

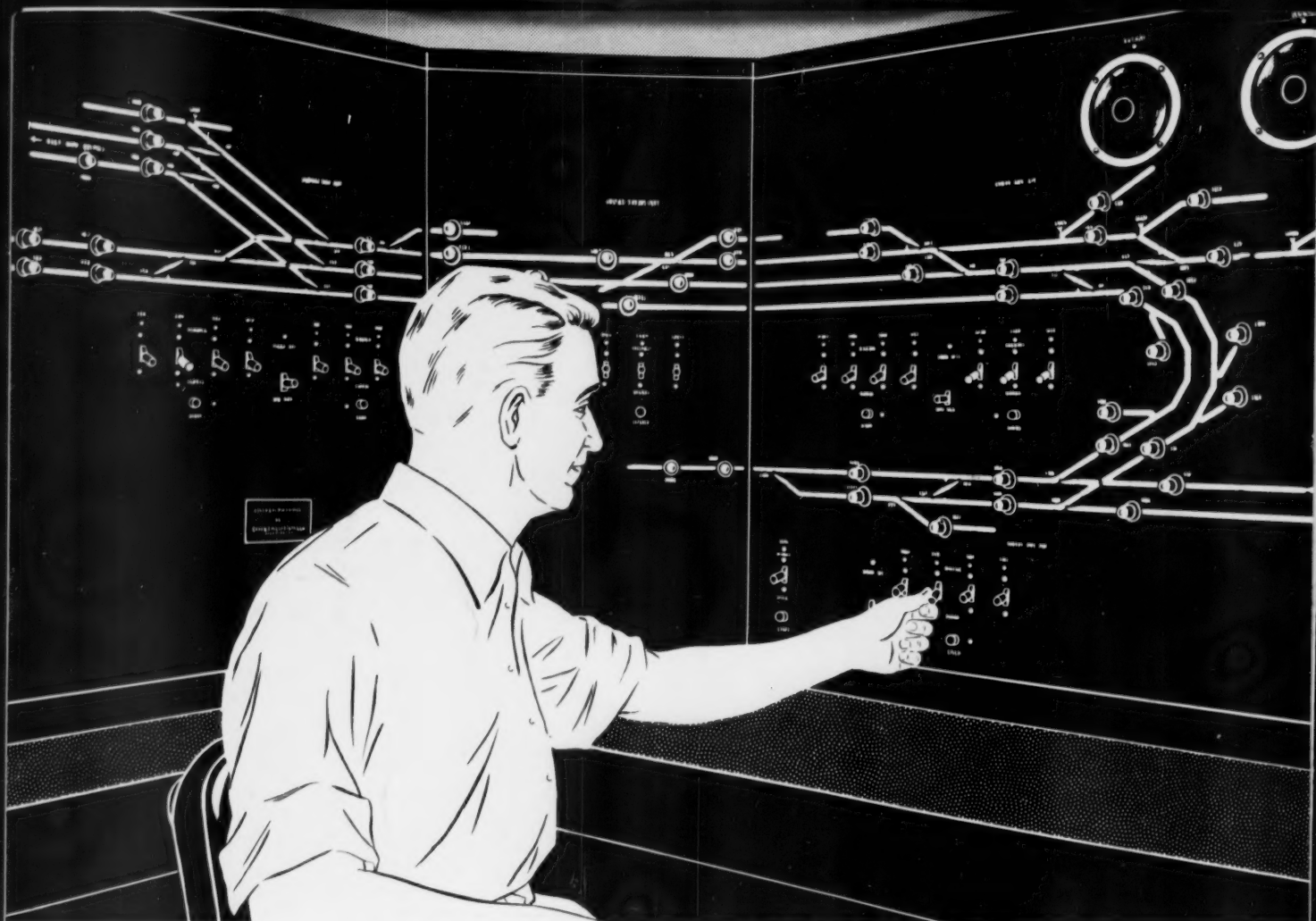
The term "Scotchlite" is a registered trademark of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

The MINNESOTA TRANSFER RAILWAY interchanges for nine roads and serves nearly 400 industrial plants in and around the Twin Cities. Many of its tracks are adjacent to and within the city limits . . . with numerous street-and-track crossings. A major problem on the M. T. was that of night-time collisions caused by automobiles running into switch engines at crossings. Then, M. T. officials decided to "reflectorize". Markings of "Scotchlite" Reflective Sheeting were liberally applied to the Diesels. Now, tiny glass spheres in the surface of the "Scotchlite" Sheeting unfailingly reflect headlight beams of approaching cars . . . flash a brilliant warning of the locomotive's presence. Result: *"not one crossing collision since we reflectorized our Diesels,"* says Robert Merk, M. T.'s Master Mechanic.

Pressure-sensitive "Scotchlite" Sheeting is easy to apply . . . takes less time than any other type of marking material. And, because it is also extremely durable, it is most economical. Why not let us send you complete information? Just write to Reflective Products Division, Dept. RA-44, at the address below—

REG. U.S. PAT. OFF.
SCOTCHLITE
 BRAND
REFLECTIVE SHEETING





G-R-S SIGNALING AT NEW ORLEANS UNION PASSENGER TERMINAL SPEEDS ROUTING WITH PUSH-BUTTON INTERLOCKING CONSOLIDATES CONTROL OF 7 LAYOUTS

368 SCHEDULED MOVES DAILY

Each of 46 scheduled trains into the terminal required 8 route line-ups, a total of 368 per day. NX push-button control simplifies the operator's work.

He makes only two motions to set up a complete route through the throat for traffic into or out of any of the 12 platform tracks.

7 LOCATIONS CONTROLLED BY ONE OPERATOR

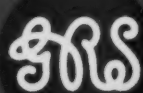
With terminal facilities for 8 major trunk-line roads, 6 additional interlockings are needed to handle traffic to and from the station throat. G-R-S Individual Lever all-relay interlocking control of these

layouts is consolidated on the same machine used for the terminal itself. One operator thus controls the entire area, including operation by signal indication between locations.

CONSOLIDATION CUTS COSTS, IMPROVES OPERATION

This is another example of how one man can handle traffic better than several men at scattered points. With all information before him, and complete control at his fingertips, he can plan ahead adequately for most efficient train operation, can execute complex

moves with minimum delay. Interlocking consolidation can pay its way in reduced expenses—in addition to improving train operation. Ask us to help you make an analysis of your interlocking consolidation possibilities.



GENERAL RAILWAY SIGNAL COMPANY

230 Park Av.
NEW YORK 17

122 S. Mich. Av.
CHICAGO 3

Main Office
ROCHESTER 2, N. Y.

611 Olive St.
ST. LOUIS 1 A-2697A

1904
50th
YEAR
1954